

BYZANTINE MONASTIC REMAINS IN THE SOUTHERN SINAI

ISRAEL FINKELSTEIN

With a Contribution on

GREEK INSCRIPTIONS IN DEIR RUMHAN, SINAI

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I. JEBEL SUFSAFEH (BYZANTINE HOREB)*

From the third to the seventh centuries A.D. a number of monastic centers grew up in the arid regions of the Holy Land, among them the center in the Southern Sinai. Two main factors made the peninsula a large and important monastic community during the Byzantine period. In the first place, the natural environment guaranteed the monks subsistence near water sources and desert orchards, as well as refuge from persecution and a spiritual haven. Secondly (and possibly arising from the first factor), religious traditions placed the exalted events described in the Bible in this region and identified Mount Sinai, the Burning Bush, Horeb, and other sites connected with these events. The primeval splendor of Southern Sinai doubtless played its part in the creation of these traditions.¹

There were three monastic centers in Sinai (fig. A).

1. Raithou—usually identified with et-Tur. Monastic remains are known at nearby Bir Abu Sueira.

2. Feiran oasis—or Pharan of Roman–Byzantine sources; there are remains of churches and chapels both on Tel Maḥrad in the oasis itself and on Jebel Taḥuna opposite.² Monastic remains are also known on nearby Jebel Serbal.³

3. The Sinai heights. Two centers of monastic activity can be distinguished in this region: one in the area of Jebel Umm Shomer in the southwest of the peninsula,⁴ and the other, most important of all, in the red granite massif with Mount Sinai and the Monastery of the Burning Bush (St. Catherine's) at its hub. The focal point of Sinai monasticism in general, and of the mountain communities in particular, was the Monastery of the Burning Bush. Other small monasteries are known in this region—Deir el-Arb'ain (the Monastery of the Forty Martyrs) in Wadi el-Leja, Deir Phokara (the Mon-

² Tsafirir, *op. cit.*, 9–10.

*An earlier version of this work appeared in Hebrew (1979) as a booklet entitled *Monasticism on Mount Horeb*, published by the Society for the Protection of Nature in Israel.

¹ On the Sinai monasticism, see R. Devreesse, "Le christianisme dans la Péninsule sinaïtique, des origines à l'arrivée des Musulmans," *RBibl*, 49 (1940), 205–23; Y. Tsafirir, "Monks and Monasteries in Southern Sinai," *Qadmoniot*, 9 (1970), 2–18 (Hebrew); H. Skrobucha, *Sinai* (London, 1966); D. J. Chitty, *The Desert a City* (Oxford, 1966), 168–77. On several excavations of monastic sites in Southern Sinai, see recently U. Dahari, A. Goren, "The Sinai Monasticism in the Byzantine Period in the Light of Archaeological Excavations," in I. Lachish, Z. Meshel, eds., *South Sinai Researches 1967–1982* (Tel Aviv, 1982), 36–47 (Hebrew).

³ C. W. Wilson, H. S. Palmer, *Ordnance Survey of the Peninsula of Sinai* (London, 1869). Recently this area has been surveyed again by U. Dahari of the "Tsukei David" Field School of the Society for the Protection of Nature in Israel.

⁴ Some of the remains of the Jebel Umm Shomer area were mentioned by travelers but were never described. In February and May 1978 the author, with the help of the Na'ama Field School of the Society for the Protection of Nature in Israel, carried out the first survey in the region: *Hadashot Archeologiot*, 65–66 (1978), 66 (Hebrew); *idem*, "The Byzantine Monastic Remains in the Region of Jebel Umm Shomer in South Sinai," to be published in a book on Sinai by the Department of Geography of Tel Aviv University (Hebrew).

astery of Cosmas and Damian) in Wadi Tlah, among others. In addition, monastic remains are known to exist on the red granite mountains such as Jebel Sufsafeh, Jebel ed-Deir, Jebel 'Aujar, and Jebel Bab, as well as in most of the wadis which lie between them (fig. B).⁵

Until recently, no extensive survey of the monastic remains in the Southern Sinai mountains had been made. Jebel Sufsafeh was thus chosen as the first object of such a survey.⁶ This impressive mountain was identified by the monks of Sinai as biblical Horeb, where the prophet Elijah found refuge (I Kings 19:8). Because of its sanctity and its proximity to the Monastery of the Burning Bush and Mount Sinai, Jebel Sufsafeh became the heart of Sinai monasticism in the Byzantine period. The intensity of monastic activity here, as evidenced by the remains that were surveyed, was far greater than anything that has come to light on other ridges or in other wadis of the area.⁷

The Mountain

Jebel Sufsafeh (Fig. 1) rising south of St. Catherine's Monastery (figs. C and 2) extends from the higher Jebel Musa (the Byzantine Mount Sinai) in a northwesterly direction for about 2.5 km. It is over a kilometer wide and its summit lies 2,168 m. above sea level. The mountain is bordered on the north by Wadi ed-Deir, where St. Catherine's Monastery is situated, on the south by Wadi el-Arb'ain and Wadi Shreij, and on the west by the vale of er-Rabah. Its steep escarpments rise to the height of 500 m. above the surrounding area, but between its rocky peaks lie mountain valleys (*farsh* in Arabic), 1,900 to 2,000 m. above sea level, overlain with alluvial deposits (fig. 3). It is in these small valleys that the monastic complexes are located. The mountain is composed of red granite which forms

extensive rock surfaces characterized by outcrops and hemispherical caps. These rock surfaces are almost totally impermeable, and thus rainfall results in an immediate surface flow of runoff water. Consequently the lower areas receive a much larger quantity of water than that which is precipitated directly. Two main fault lines are discernible in the mountain: one lying in a south-north direction, the other southeast-northwest. Along these fault lines the main wadis and ravines of the mountain ridge and its slopes developed. Where such fault lines meet, the small mountainous valleys were formed, covered with alluvial deposits. In the wadis and ravines the monks built most of the paths that traverse the mountain or connect it with the adjoining valleys, as well as some of the water systems which served the inhabitants of the building complexes. Alcoves developed in the red granite and served the monks as hermits' cells.⁸

The local climate, like that of other summits in southern Sinai, is mild in the summer and harsh in the winter: the average temperature of Jebel Katarina (at 2,642 m. above sea level) in August is 17.6°C (as opposed to 30°C at et-Tur on the Suez Gulf and 26°C at Bir Gafgafa in northern Sinai), and in January is 1°C (15°C at et-Tur and 11.8°C at Bir Gafgafa). On winter nights the temperature falls below zero: the average minimum temperature in January is -2.7°C and in February -1.6°C. Precipitation is high in this area, relative to other regions in the peninsula: the approximate annual average at St. Catherine's is 65 mm. (as against 9 mm. at et-Tur, 25 mm. at Eilat, and 37 mm. at Bir-Hasneh in northern Sinai). Much of the precipitation occurs at the margins of the winter season, generally in the form of short but very heavy rains. Like other desert regions, however, a several hundred percent deviation from the norm is possible: in 1937, for example, in Jebel Katarina, 124.5 mm. of rain fell, whereas, in the previous year, 1936, only 18.9 mm. were recorded! Some of the precipitation is in the form of snow, which remains for a long time on the peaks and in sheltered areas.

Certain factors facilitated the life of the monks on the mountain: the available and relatively plentiful water which flows after the rains as runoff over the impermeable rock surface and the valleys covered with alluvial deposits permitted agriculture, mainly in the form of desert orchards, well adapted

⁵In this area also the archeological activity is in its infancy. On the excavation carried out by A. Goren at a Byzantine site in Wadi Jeebal west of St. Catherine's Monastery, see *Hadashot Archeologiot*, 57-58 (1976), 46-47 (Hebrew).

⁶Many travelers visited the mountain, and it was even mapped by the British Ordnance Survey of Sinai (*supra*, note 3), but the early remains dispersed on it have not until now been described.

⁷The survey in Jebel Sufsafeh was carried out in 1976-77 on the initiative of the Tsukei David Field School. It was directed by the author, and A. Goren and B. Saas, archeological staff officers for Sinai, with the help of the staff of the Field School and the Institute of Archeology of Tel Aviv University. Judith Dekel and Ora Paran prepared the plans. Yardenna Alexander translated the manuscript. The work is published with the help of the Moskovitz Eretz Israel Research Foundation of the Land of Israel Studies Department, Bar Ilan University.

⁸It is important to note that the adjacent higher Jebel Musa has a cone shape with steep slopes, without any valleys. Therefore, there are no monastic remains on it, except for the church on its summit.

to the unique climate of the Sinai heights.⁹ The mountain monks, who were well acquainted with the local natural environment, constructed water conduits and pools for the storage of rainwater and melted snows, taking into account the climatic regime and exploiting the mountain topography. The unique character of Jebel Sufsafah—isolated valleys, high peaks, scarps, and rock alcoves—suited the development of monastic communities and, alongside them, hermits in recluse.

The Byzantine Sources

Written sources from the Byzantine period dealing with the Sinai monasticism in general are limited. The remoteness of the peninsula from the centers of the Empire resulted in the isolation of its monks. All that exists is the account of the building of the Monastery of the Burning Bush by the Emperor Justinian, the description of a few pilgrims, and some information from the monastic literature. The two latter sources are often interwoven with myths and legends, from which the historical nucleus must be carefully extracted. On the other hand, Jebel Sufsafah and its monks, because of their proximity to Mount Sinai and the Monastery of the Burning Bush, appear in several of the extant sources.

The monk Ammonius describes the slaughter of the Sinai monks which apparently took place in A.D. 373. In the account a place called Horeb is mentioned:

And after a few days suddenly many of the Saracens fell upon us; because at that time the king of the Saracens had died, he who was the guardian of the desert. And they killed those of the fathers who were found in the distant cells. But those who were dwelling in places near, when they heard (the commotion) fled to a certain fortress in the neighbourhood. . . . And they killed in Geth-rabbi all those whom they found there; and in Choreb; and people in Codar; and all those whom they found near to the Holy Mountain.¹⁰

The pilgrim Egeria visited Sinai at the end of the fourth century A.D. Her detailed description attests to intensive monastic activity on the mountain even at this early date, accompanied by sacred traditions. Some churches are already mentioned.

Egeria also describes the agricultural activity on the mountain:

As we were coming out of church the presbyters of the place gave us "blessings," some fruits which grow on the mountain itself. For although Sinai, the holy Mount, is too stony even for bushes to grow on it, there is a little soil round the foot of the mountains, the central one and those around it, and in this the holy monks are always busy planting shrubs, and setting out orchards or vegetable-beds round their cells. It may look as if they gather fruit which is growing in the mountain soil, but in fact everything is the result of their own hard work. . . . Now that we had done all we wanted and climbed to the summit of the Mount of God, we began to descend. We passed on to another mountain next to it which from the church there is called "On Horeb." This is the Horeb to which the holy Prophet Elijah fled.¹¹

Antoninus Martyr visited Sinai in the second half of the sixth century, the height of monasticism in Sinai. He mentions the fortified monastery built a few years previously by the Emperor Justinian. His description includes inaccuracies and is exaggerated but also contains important information:

A day's journey from there we came to Horeb, the Mount of God, and as we were moving on in order to climb Sinai, we were suddenly met by a crowd of monks and hermits. . . . Then they took us with them into the valley between Horeb and Sinai. . . . we came to a place with a cave in which Elijah hid himself when he was fleeing before Jezebel. In front of the cave rises a spring which provides water for the mountain. . . . Mount Sinai is rocky, with very little soil, and all around are cells for the servants of God, as on Horeb. But they say Horeb is good soil.¹²

Finally, the historian Procopius, a contemporary of Justinian, describes the construction of the monastery and the life of the mountain monks in his book *On the Buildings*:

On this Mount Sinai live monks whose life one might describe as a careful rehearsal of death, for they love their desert life and enjoy it without being afraid. They covet nothing, they have mastered all human desires, and have no anxieties about possessions, the care of their bodies, or any comforts whatsoever. For them the Emperor Justinian built a church which he dedicated to the Mother of God. . . . At the foot of this mountain the Emperor also built an extremely strong fortress, and garrisoned it with rigorously selected men to prevent the local Saracen barbarians of that region (which, as I have said, was desert) from being able to make secret raids into the area of Palestine.¹³

⁹On this subject see A. Perevolotsky, "Orchard Agriculture in the High Mountain Region of Southern Sinai," *Human Ecology*, 9 (1981), 331–57. Also, *idem*, "Man and Settlement in the Sinai Heights," in Z. Meshel, I. Finkelstein, eds., *Sinai in Antiquity* (Tel Aviv, 1980), 411–20 (Hebrew).

¹⁰Lewis Agnes (Smith), *The Forty Martyrs of the Sinai Desert, Horae Semiticae* (Cambridge, 1912), 2.

¹¹J. Wilkinson, *Egeria's Travels* (London, 1971), 94–95.

¹²*Idem*, *Jerusalem Pilgrims* (Jerusalem, 1977), 87.

¹³Procopius of Caesarea, *Buildings*, V, viii; Abtichius of Alexandria, who lived in the beginning of the tenth century, also records in detail the building of St. Catherine's Monastery: E.

Description of the Remains

Substantial Byzantine remains were surveyed on the mountain. The principal finds were about fifteen building complexes in the valleys, consisting of chapels and small monasteries, stone walls, water conduits, pools for water storage, and terrace walls for soil retention. In addition hermits' cells, stepped paths, prayer niches, and rock inscriptions were found. A representative selection of the sites is described below, including descriptions of some of the building complexes, as well as summaries of other topics covered by the survey. The description is illustrated by the map (fig. D).

BUILDING COMPLEXES

Complex 210, Valley of the Chapel of St. Anne (figs. D:1 and E)

A relatively small valley (approx. 50×15 m.) formed by the broadening of a ravine. At its north-eastern end, across the only outlet, there is a terrace wall which led to the buildup of soil deposits in the valley. In the center of the valley there is a second wall which retains water in the winter season. The rock faces descend steeply into the valley and in some places are almost vertical. They rise ca. 20–25 m. above the valley. At the north of the complex there is a step in the rock which juts out 5–7 m. above it. The later chapel¹⁴ named after St. Anne is built on this step. From the complex a path leads north toward Farsh el-Lozah. Along the path are sections of well-cut steps and a cross cut into the rock. Another path leads in a southwesterly direction, ascends a ravine toward the watershed of the mountain, and leads down again to the path connecting the valley of the Chapel of St. Panteleemon with Farsh el-Qasr (complex 220). A third stepped path leads from the head of the valley northwest to the Chapel of St. Panteleemon.

On the slope south of the later chapel a few early walls are discernible, emerging from the heap of earth and ruins. These appear to be the remains of the Byzantine building of the complex; the chapel mound is the only one in the valley suitable for construction, since the remaining area was prepared for cultivation. The purpose of the terrace wall in the northeastern corner of the valley was to

prevent soil erosion. It is built of large fieldstones at its base and smaller ones in its upper part. The wall (6 m. in length), built on a step in the bedrock, is preserved on its northern face to a height of about 1.5 m. At the head of the valley, where the ravine enters it, there are remains of a dam, 3.5 m. in length and about 1 m. in width. From its eastern end a channel joined to the rock runs along the valley to the northeast. It appears that behind the dam, in the narrow ravine, there was a pool for storing water that filled up with the runoff of the ravine. It is possible to direct water from it to the agricultural plots in the valley, the area of which was about 600 sq. m.

Byzantine pottery, as well as some medieval glazed sherds, was collected in the complex.

Complex 220, Farsh el-Qasr (figs. D:2 and F)

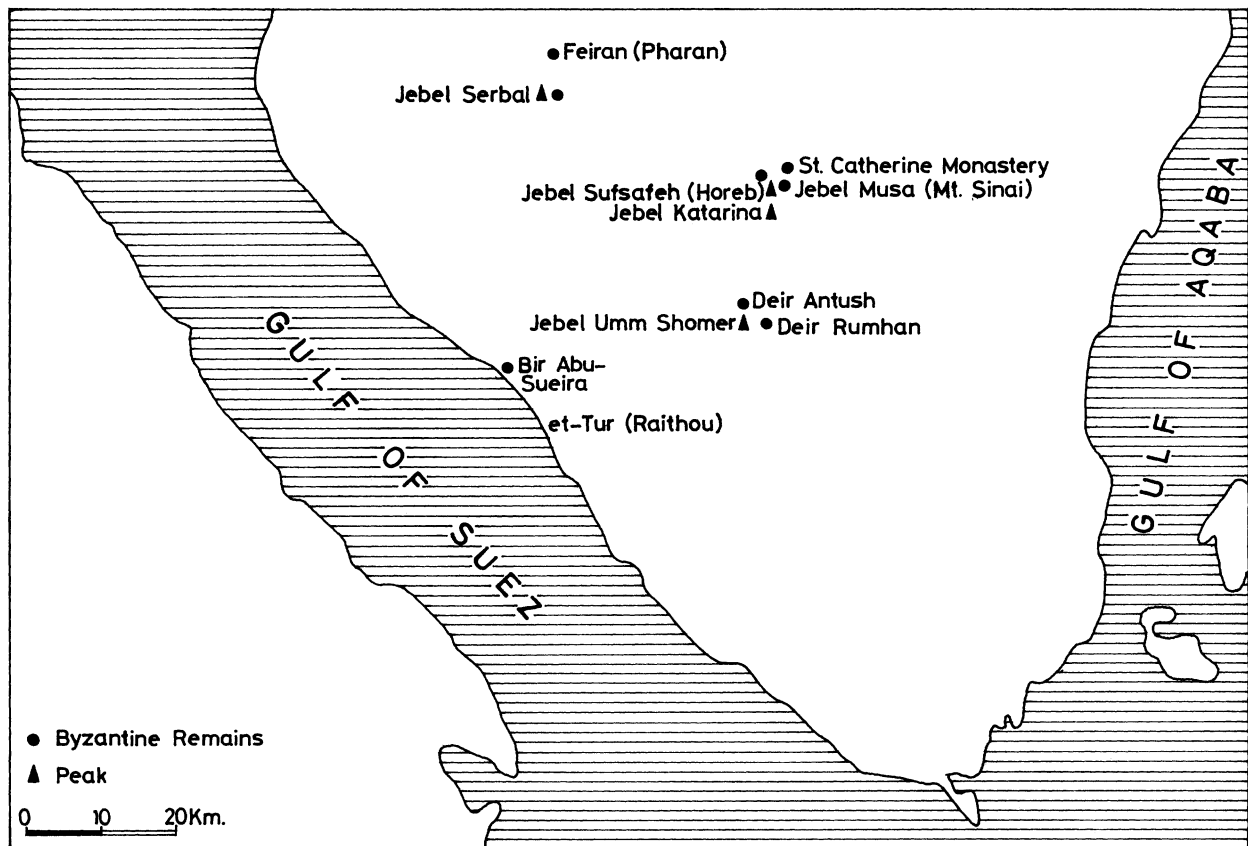
This valley is situated in the southeast extremity of Jebel Sufsafah. Beyond the local watershed, an ancient path leads to Deir el-Arb'ain. To the south and west of the valley, steep slopes, some of them cliff-like, descend in the direction of Deir el-Arb'ain and the head of Wadi Shreij. An extensive arrangement of paths connects this complex with the Chapel of Elijah, the Chapel of St. Panteleemon, Deir el-Arb'ain, and other mountain complexes. Southeast of this valley rises the summit of Jebel Musa.

In the center of the valley, on a rock surface, stands a Byzantine chapel attached to another building, apparently a small monastery (figs. G and 4). A round apse juts out to the east of the chapel, preserved to a height of 3 m. The other walls stand to a height of approximately 1.5 m. In front of the apse there are two piers connected to the walls. The adjacent building is not well preserved and its connection with the chapel is unclear.

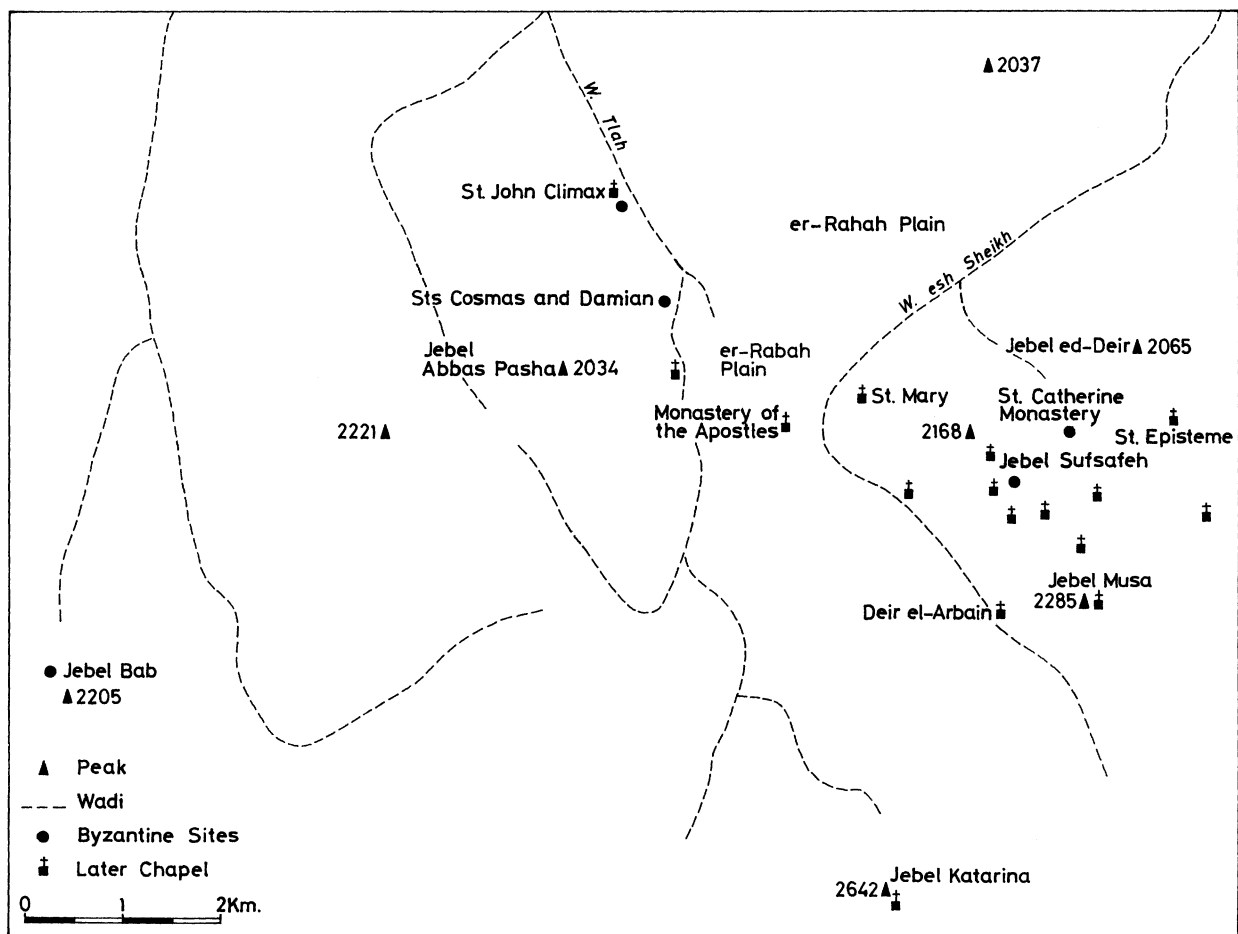
In the west of the valley, at the top of the ravine that drops steeply to the northwest, a dam was built, creating a pool for water storage behind it, today preserved to a height of about 2 m. It consists of two stone faces with rubble in between, as is typical of the mountain dams. The dam (4 m. in length, 1.5 m. in width, 2 m. high) is built of medium-sized, roughly hewn stones with small stones between the courses. On its inner face remnants of plaster are visible. Behind it, between the almost vertical rock walls, a pool was created, about 14 m. in length and 2.4 m. in width. The water reached the pool, apparently, via the conduits visible in the small wadi that enters the valley from the southeast. The two conduits run parallel along the rock slope. On the

Robinson, *Biblical Researches in Palestine*, I (Boston, 1841), 556–58.

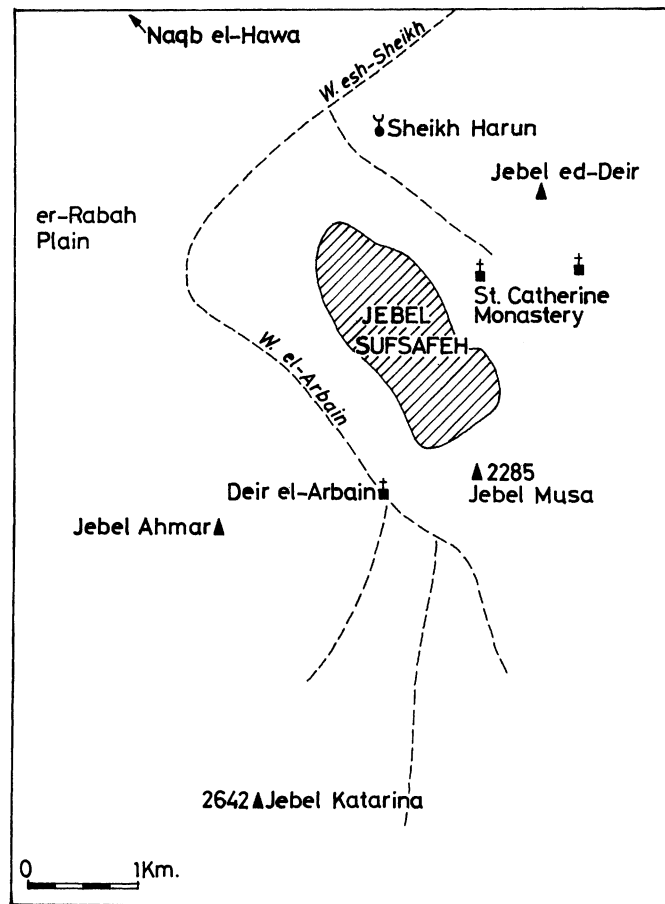
¹⁴The term "later chapel" is used in this paper for the intact chapels, probably medieval in origin but repaired in the nineteenth century, situated on the mountain: the chapels of Elijah, the Virgin of the Oikonomos, St. John, St. Anne, Panteleemon, and the Zone, along with the building in Farsh el-Lozah.



A. Centers of Monasticism in the Sinai Peninsula



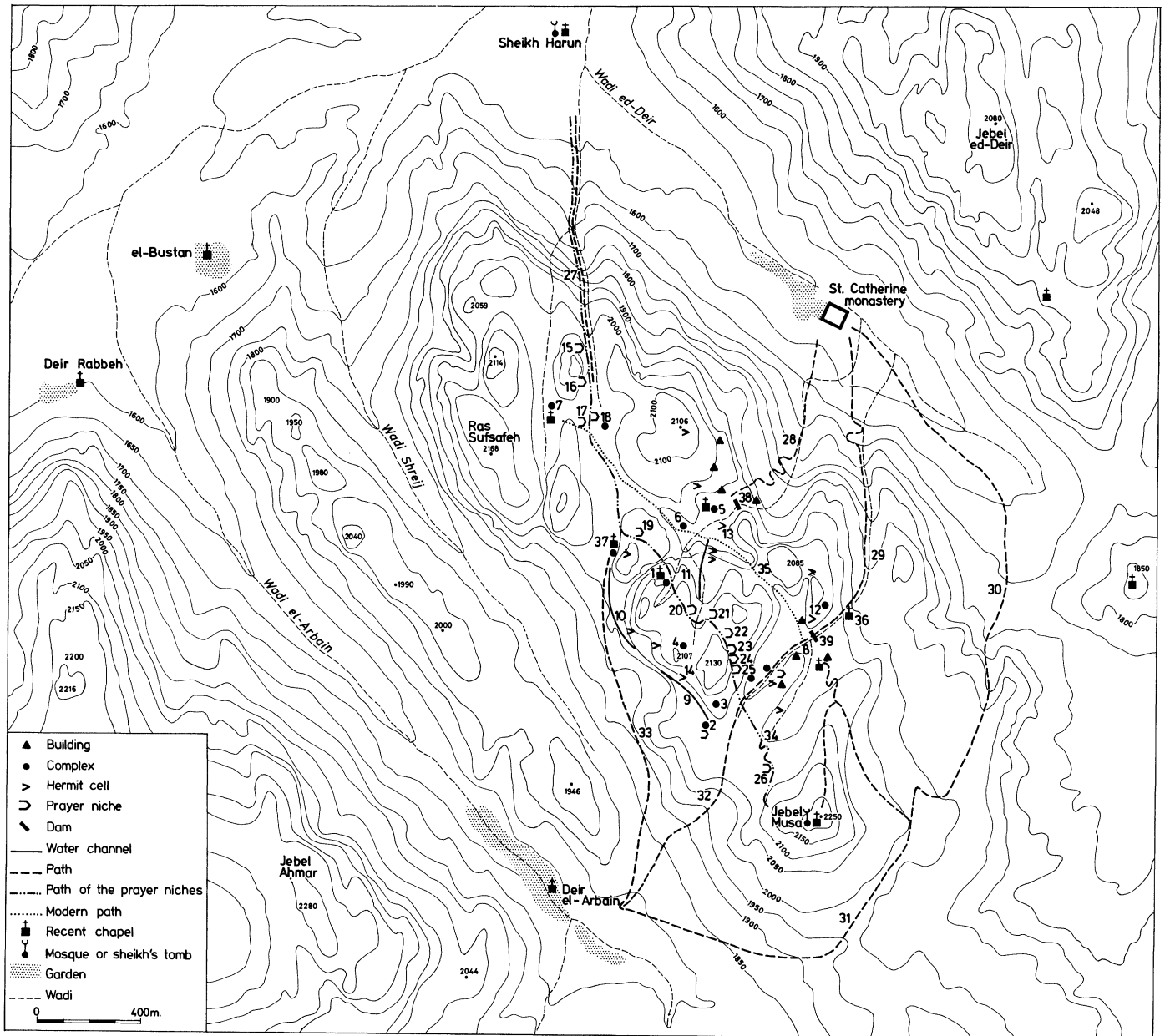
B. Main Christian Sites in the Sinai Heights



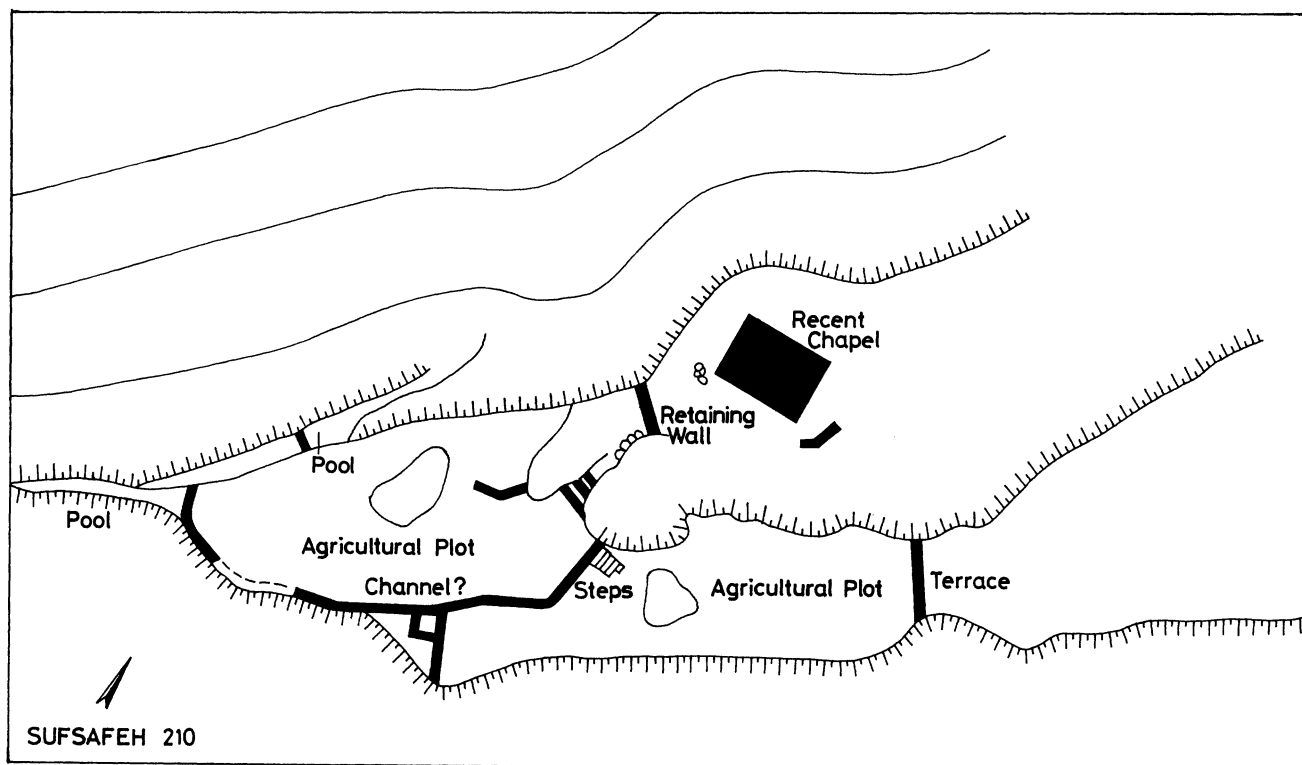
C. Jebel Sufsafeh and Its Vicinity

Key to Sites of Jebel Sufsafeh Marked on Figure D

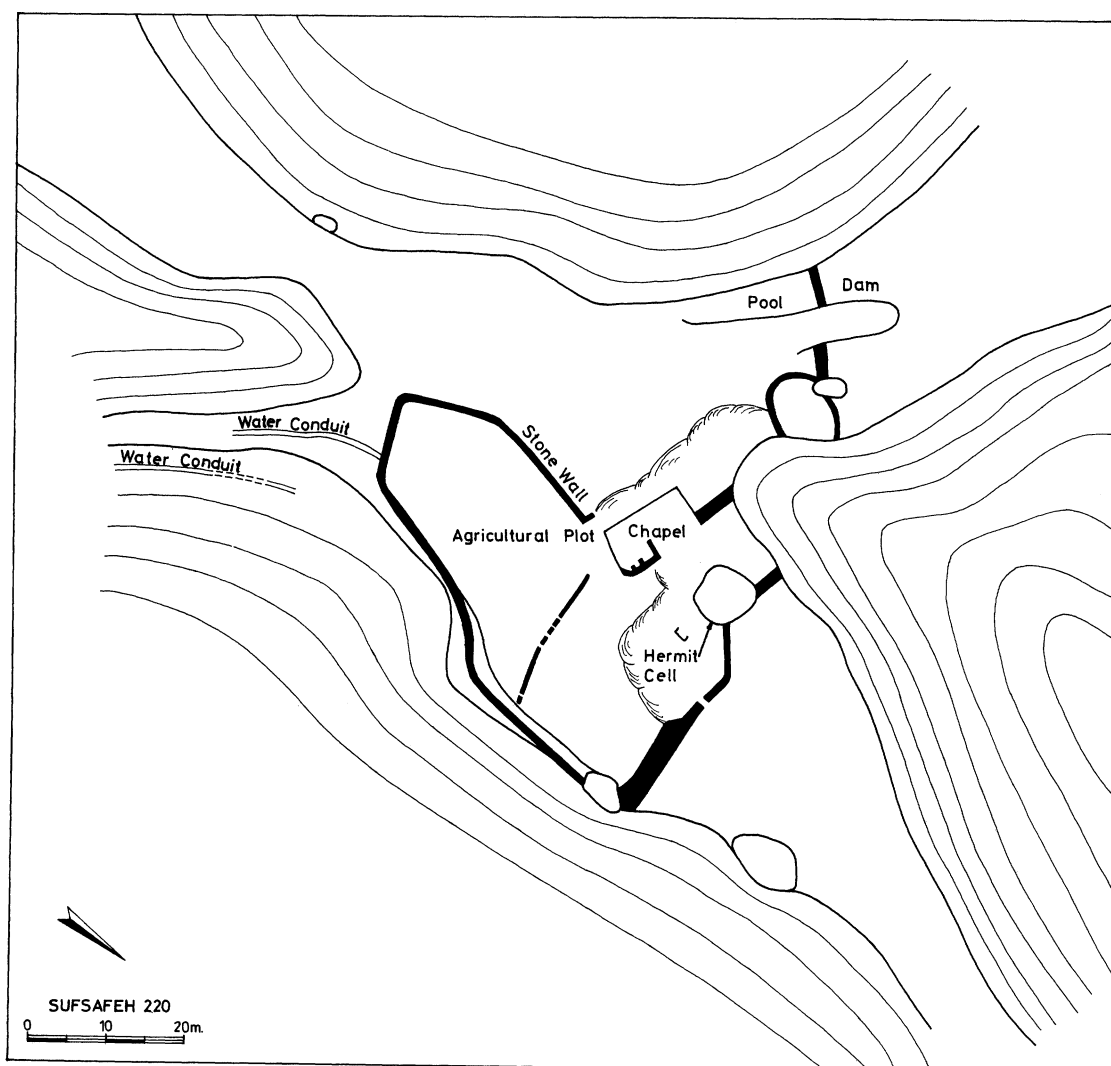
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| 1. Complex 210 and Chapel of St. Anne | 15–26. Prayer Niches |
| 2. Complex 220, Farsh el-Qasr | 27. Sikket Shoeib |
| 3. Complex 230 | 28. Sikket Armezia |
| 4. Complex 240 | 29. "The Path of the Steps" (Sikket Syedna Musa) |
| 5. Valley of St. John's Chapel Complex | 30. Sikket Basha |
| 6. Farsh el-Lozah Complex | 31. Path from Deir el-Arb'ain to Jebel Musa |
| 7. Valley of Chapel of Zone Complex (Farsh Sufsafeh) | 32. Path from Deir el-Arb'ain to Chapel of Elijah |
| 8. Valley of Chapel of Elijah | 33. Path from Deir el-Arb'ain to Chapel of Panteleemon |
| 9. Water Conduit to Complex 220 | 34. Sikket Shahareij |
| 10. Water Conduit to Valley of Chapel of Panteleemon | 35. Modern-built Path crossing Mountain |
| 11. Water Conduit 272 | 36. Chapel of Virgin of the Oikonomos |
| 12–13. Hermit Cells | 37. Chapel of Panteleemon |
| 14. Structure 250 | 38. Dam near Chapel of St. John |



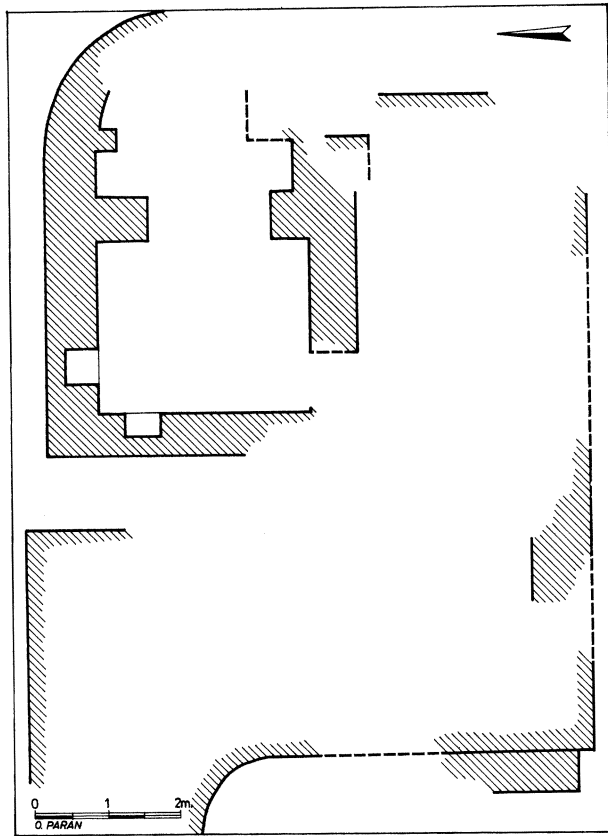
D. Monastic Remains on Jebel Sufsafeh



E. Complex 210 (schematic; approximate scale 1:500)



F. Complex 220 (Farsh el-Qasr), General Plan of Remains



G. Complex 220, Plan of Chapel and Monastery

side of the wadi they are built of upstanding stones and on the other side, of natural rock. They are not plastered. The upper conduit drained the rock surfaces above it, and the lower conduit "caught" the runoff water from the wadi itself, close to its head. The conduits were dozens of meters long. They directed water to the walled plot in the center of the valley and probably also filled the pool behind the dam. An additional water conduit reaches Farsh el-Qasr from the north, from the direction of structure 250 (see below). Alongside it lies the path to the Chapel of St. Panteleemon. This conduit is over 300 m. long. Along the rock scarp are sections of the retaining walls standing up to 4.5 m. The conduit (which was also unplastered) trapped the water from the small wadis which run down the scarp, as well as from the southern rock slope of the mountain. The available water in the rainy season was thus well exploited in the region of Farsh el-Qasr: both ravines and rock slopes were drained, since the red granite, as noted, is scarcely permeable and the rain results in an immediate surface flow. All this effort was designed to provide

drinking water and to irrigate the walled plot, whose area was about 750 sq. m. (with possibly an additional small plot to its north). Stone walls (1–2 m. wide, up to 2.5 m. in height) surrounding the main plot of land in the center of the valley were built, apparently, to keep out the flocks of goats (fig. 5). On the slope leading down from the east into the valley there are some alcoves beneath boulders, with scanty building remains. These seemingly served the monks who went into seclusion close to the complex. Next to the chapel there is another plastered alcove beneath a boulder and at its façade a destroyed prayer niche (see below).

Complex 230 (figs. D:3 and H, I)

This complex is situated on a step overlain with soil deposits, in the middle of a scarp looking eastward from a great height toward the valley of the Chapel of Elijah. To the west and north of the complex rise almost vertical rock scarps, and to the south and east are steep rocky slopes. In the center of the small valley there is a large ruined building (ca. 15 × 15 m.), in a state of almost total collapse, as a result of which it is impossible to trace its plan in detail. Two stepped paths lead to the complex from other parts of the mountain.

The soil of the agricultural area lies deposited behind the terrace wall found at the top of the narrow ravine which descends in an easterly direction. The wall (12 m. in length, 1 m. wide) is built of large fieldstones at its base and smaller stones on top. It is preserved to an average height of one meter. The terrace walls for soil retention differ from the water dams of the mountains both in their construction and in that the stone faces of the former are not plastered.

Much planning and effort was devoted in this complex to water storage. At the base of the narrow ravine which descends to the complex from the north there is a dam and a pool (fig. I), today filled with earth. The inner face of the dam (2.7 m. long, 1.4 m. thick) is covered with a thick layer of plaster. On the side of the complex it is preserved to a height of 0.5–1 m. On the outer face of the dam there are traces of a roofed channel, which was apparently intended to direct water to the nearby plot. Remnants of plaster visible on the rock above the dam attest that it was at least 1.2 m. higher originally than it is today. On the almost vertical rock walls of the pool (ca. 7.5 × 0.8–2.7 m.) there are additional traces of plaster at some weak spots. The water from the pool apparently flowed into the channel which traverses the western side of the

complex, along the rock scarp, between it and the stone wall (and perhaps also directly to the northern cultivated area). This channel also drained the rock scarps and the small ravine to the west. The rock wall served as one of its sides and upstanding stones as the other—the traditional method of constructing water conduits in the mountain. The channel brought the water to the agricultural plot and the pool in the south.

An additional channel was surveyed on the slope of the rock, above the scarp, to the north of the complex. The water from this channel apparently reached the pool in the northern ravine. At the top of the short steep cleft, where a stepped path leads down from the complex, there is another dam (fig. 6) (4.5 m. long, 1.8 m. wide), which is preserved to a height of 1.8 m. It is coated on its inner surface with thick white plaster. At a height of 1.2 m. there is a channel in the dam to carry off surplus water. The area of this pool is about 30 sq. m. and it is shaded most hours of the day. This system of pools, constructed with such effort, provided water for the inhabitants of the complex and also irrigated the agricultural plots whose total area did not exceed 250 sq. m. Here, too, the plots were protected by high stone walls (0.7–1 m. wide, 1–2 m. high).

Many Byzantine sherds were collected from the site, including fragments of delicate imported bowls. Here, at Farsh el-Qasr, and in other complexes, there is no medieval glazed pottery.

Complex 240 (figs. D:4 and J)

This complex, situated about 150 m. north of complex 230, differs from the others in that it is close to one of the mountain peaks. This site, the highest surveyed on the mountain, is not constructed in a *farsh*, but at the broadening at the top of a gently sloping wadi, alongside the watershed of the mountain, where the rock surfaces are horizontal. From this point there is a spectacular view of all Jebel Sufsafeh and its surrounds. A path which leads from the complex eastward connects it to the other parts of the mountain. An additional path descends the ravine to the southwest, to complex 220. Complex 240 consists of a small building on the watershed, a natural pool in the rock, and small agricultural plots in the wadi to the east.

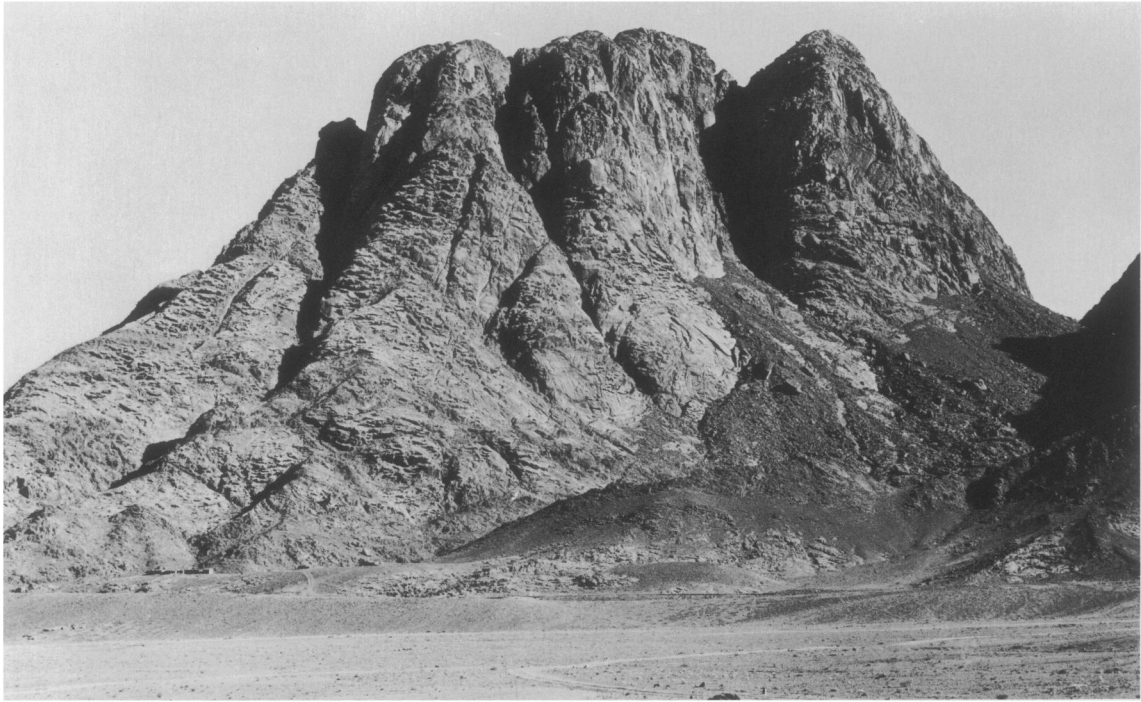
The building is well constructed of large and medium-sized fieldstones, some partially trimmed and some even dressed. In some places remnants of plaster are discernible. The stone walls near the building are of dry masonry, built with medium-sized and small stones. They stand to a height of

1.5 m. The small natural water pool in the rock (*ca.* 6 × 4 m.), a few meters to the northeast of the building, is the only water source of the complex. There is, apparently, a channel in the stone wall which encloses the upper terrace of the wadi, indicating that water flowed from the pool via the channel to the agricultural plots. The slope of the wadi is relatively gentle and there are several walls (2–7 m. in length) in it, forming small terraces. The total area of land is estimated at about 200–250 sq. m. It seems that this is the house and cultivation bed of a single monk.

Complex 50, the Valley of the Chapel of St. John and Its Environs (figs. D:5 and K)

The valley of St. John's Chapel lies in the north of the mountain, immediately to the north of the main path which traverses the length of the mountain from Elijah's Chapel to the Chapel of the Zone. About 150 m. northeast of the chapel there is a magnificent view of St. Catherine's Monastery, and from here an ancient stepped path leads down the mountain cliffs to the monastery. Its name is Sikket Armezia, as is the name of the *farsh* in which the chapel is located. To the east of the valley of St. John's Chapel, beyond the outcrop of the rock, there is another valley with soil deposits surrounded by dams on all sides. To the northeast, building 66 stands on a rock step suspended over the abyss in the direction of the monastery. In the west of the valley of St. John's Chapel, close to the rock surfaces of the valley margins, stands the later chapel on a raised platform, and adjacent to it are the remains of a Byzantine building (12 × 12 m.). Byzantine pottery and a considerable quantity of glazed and painted ware were collected in the area of the buildings.

The two valleys discussed above drain the entire central section of Jebel Sufsafeh. Since water is plentiful during the winter months, impressive building activity was undertaken in the area with the aim of storing large quantities of water. A large water conduit, which provided water for the valley of St. John's Chapel, ran in the wadi which enters Farsh el-Lozah from the south (see below). The water from this conduit, together with the water from Farsh el-Lozah and some other small ravines, reached the pool adjacent to the main mountain path at the south of the complex. The slightly curved dam (12 m. in length) which creates the pool is preserved on its inner side to a height of 2.4 m. and on its outer side to a height of 5 m. Its inner face was well plastered. At the base of the dam,



1. Jebel Sufsafeh, View from er-Rahah Plain



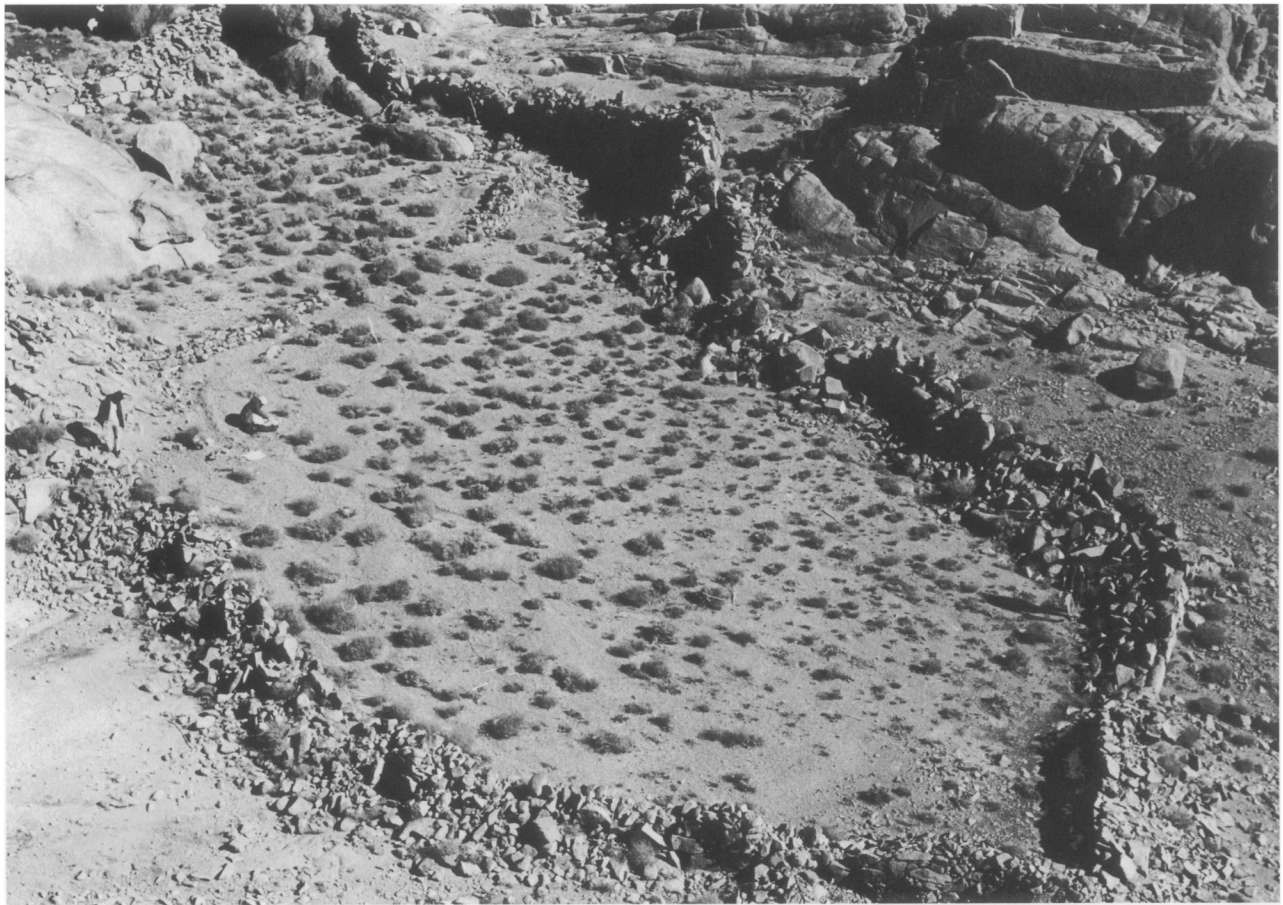
2. St. Catherine's Monastery from Jebel Sufsafeh



3. Mountain Valley (*Farsh*) on Jebel Sufsafeh, Valley of Chapel of Panteleemon in Which are Visible an Agricultural Plot surrounded by Stone Walls, Byzantine Building Remains, and Later Chapel



4. Complex 220, Chapel (Apse to left)



5. Complex 220, Agricultural Plot surrounded by Stone Wall and Remains of Chapel (to left)



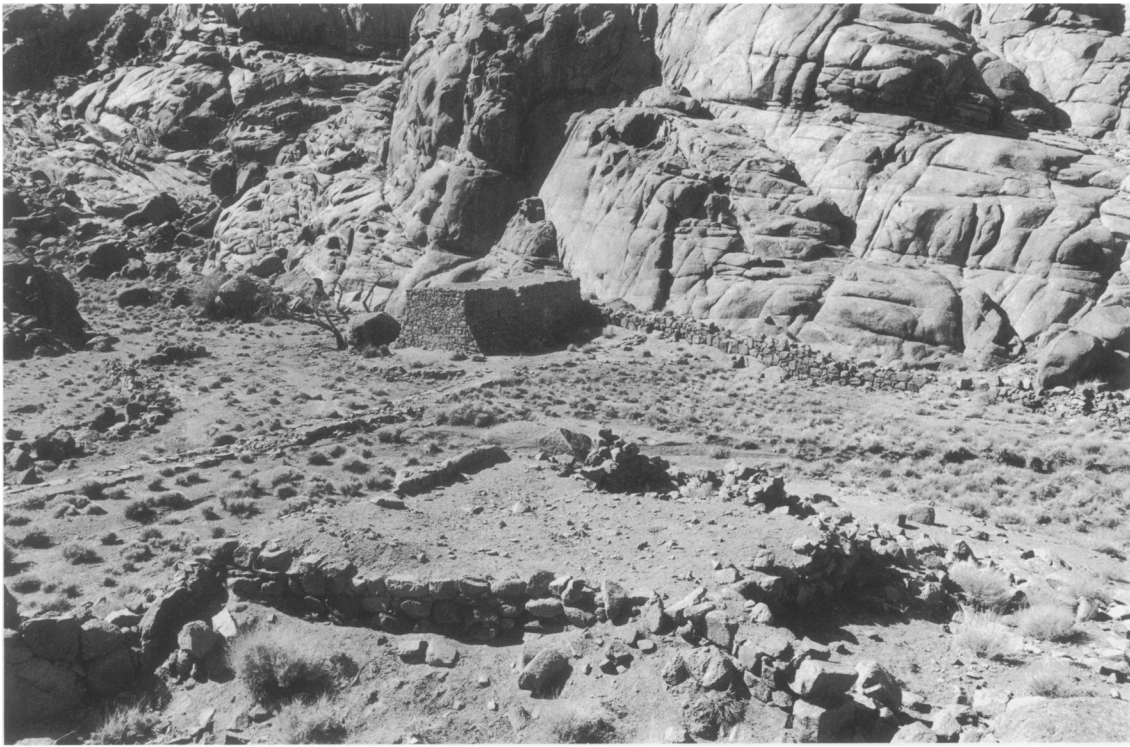
6. Complex 230, Southern Dam and Pool



7. Farsh el-Lozah, Byzantine Monastery



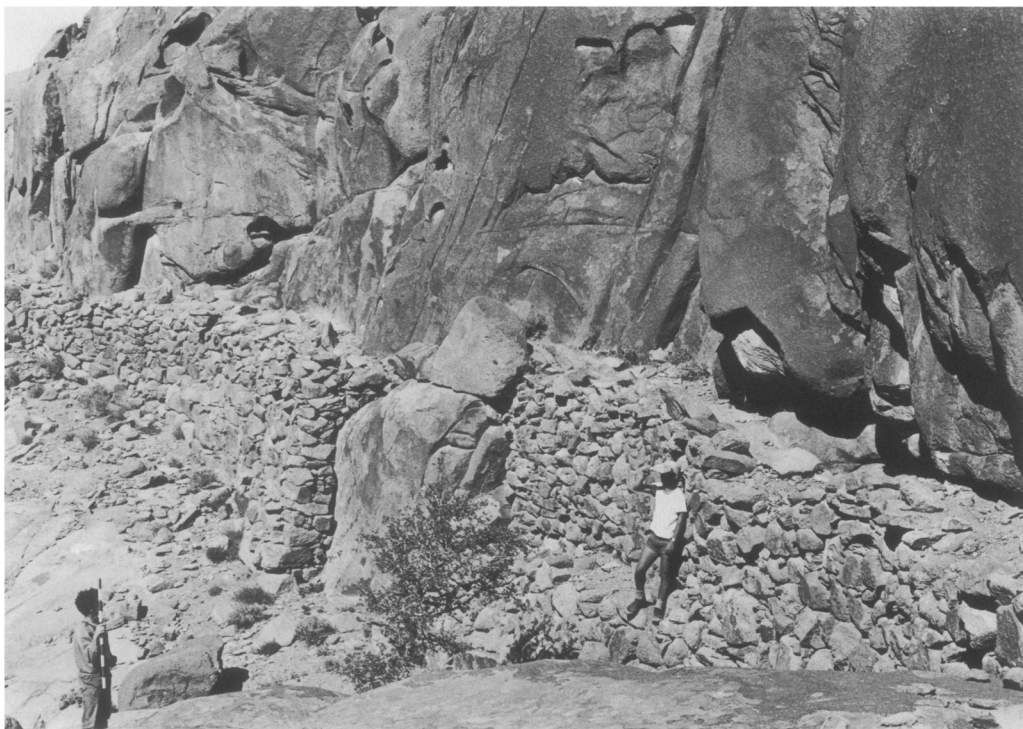
8. Farsh el-Lozah, Stone Walls and Later Building



9. Complex 100, Farsh Sufsafeh, Byzantine Building in Foreground; Chapel of Zone in Background



10. Channel draining Rock Surfaces on Southern Slope of Mountain. Note Row of Upstanding Stones.



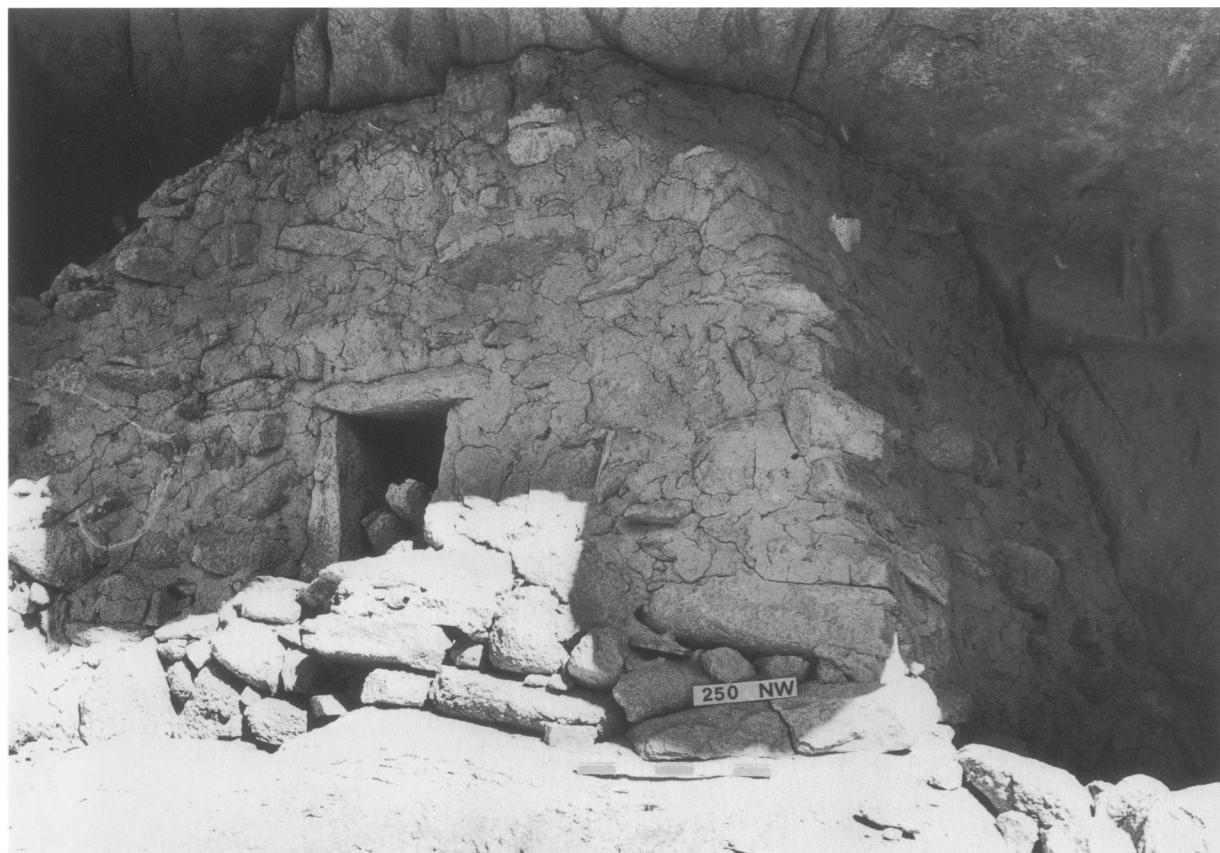
11. Retaining Wall of Water Conduit 272



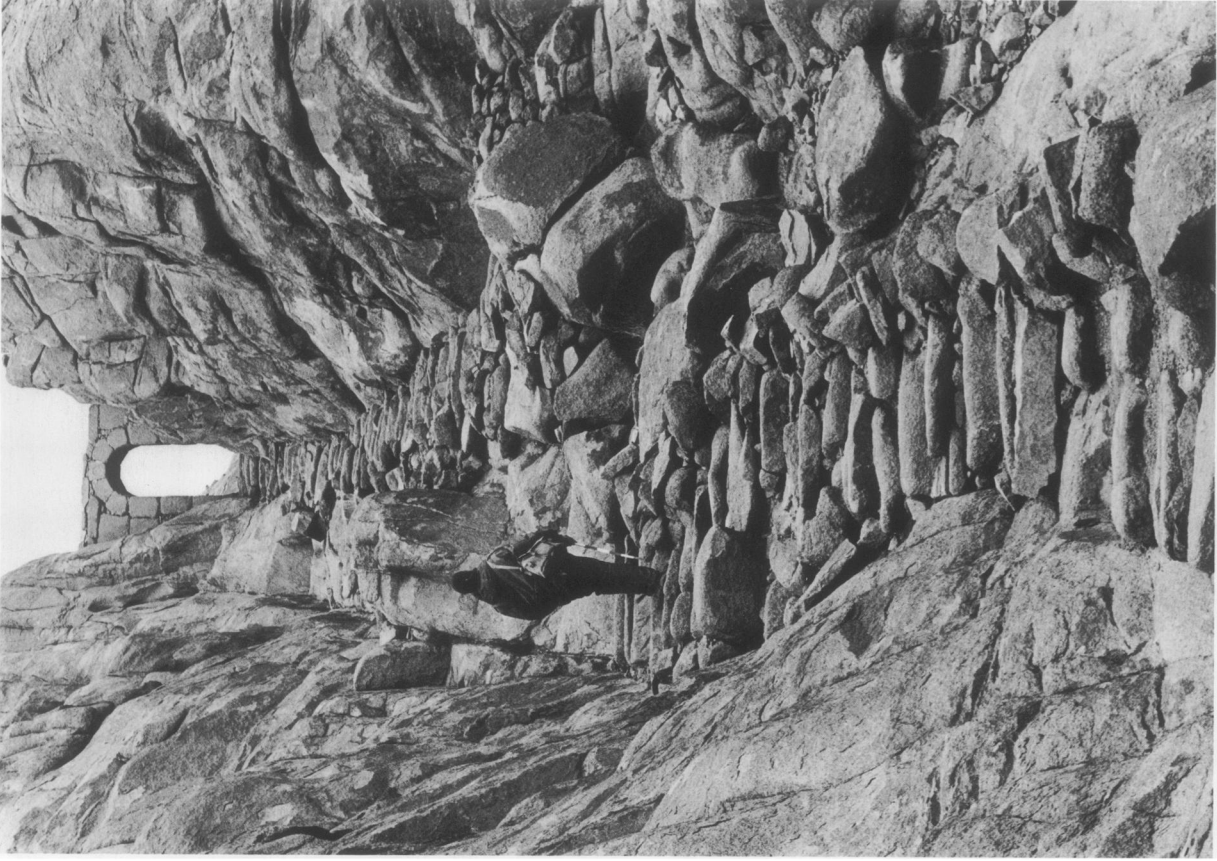
12. Water Conduit 272, Channel on Top of Retaining Wall



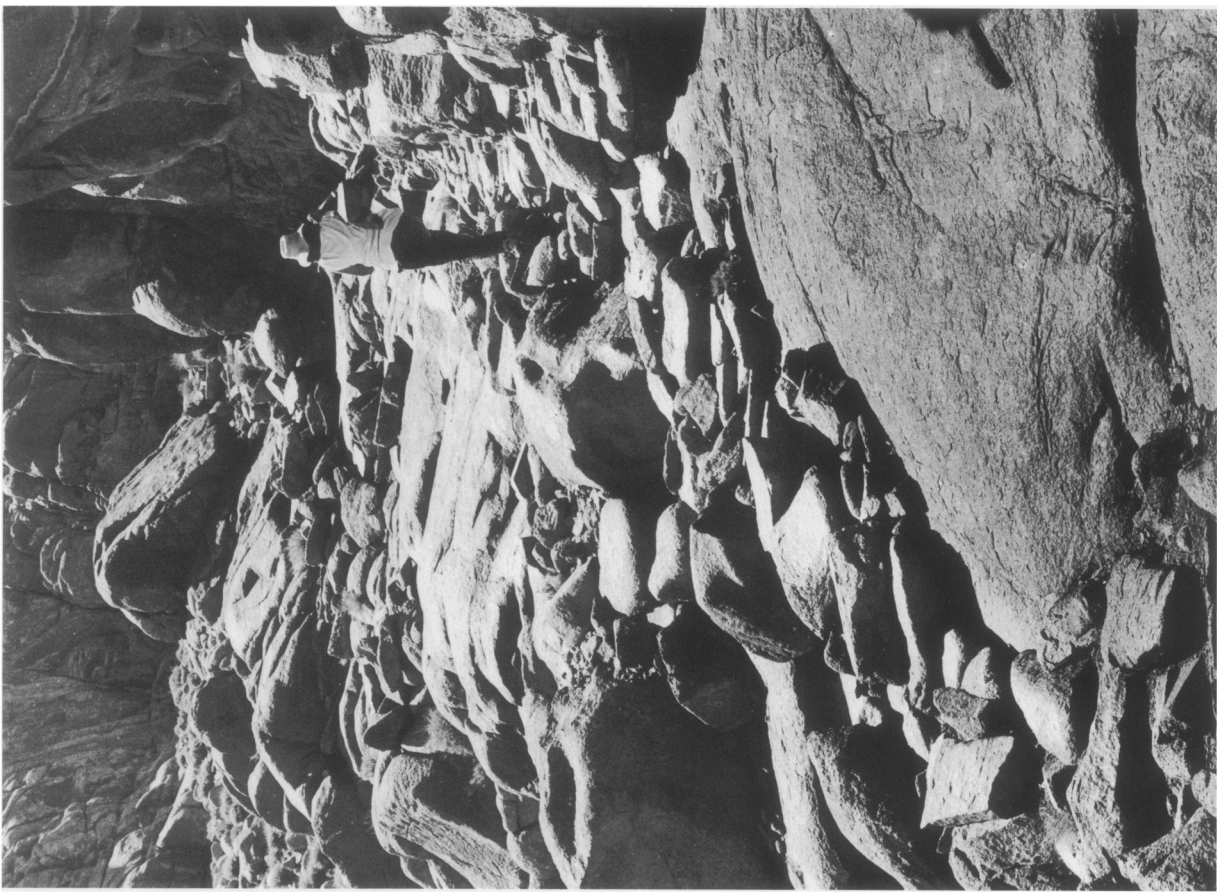
13. Structure 250, General View



14. Structure 250, Hermit Cell, looking into Rock Shelter



15. "Path of the Steps" from Monastery of St. Catherine to Jebel Musa,
St. Stephen's Gate at Top



16. Stepped Section in Sikket Shahareij



17. Deir Antush, Monastery, looking Northeast



18. Deir Rumhan, General View of Site, looking North. Monastery at Upper Right



19. Deir Rumhan, Monastery, looking Northeast



20. Deir Rumhan, Water Channel



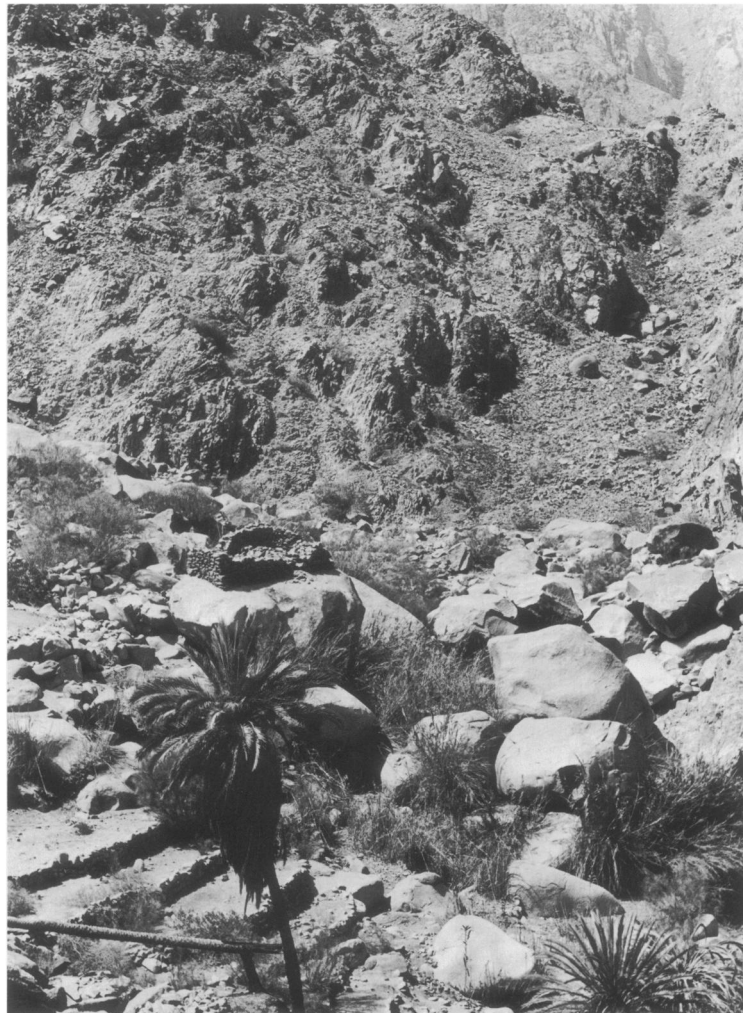
21. Deir Umm Arad, looking South



22. Farsh Ḥabash, Lintel with Engraved Cross



23. Farsh Ḥabash, Chapel, looking East



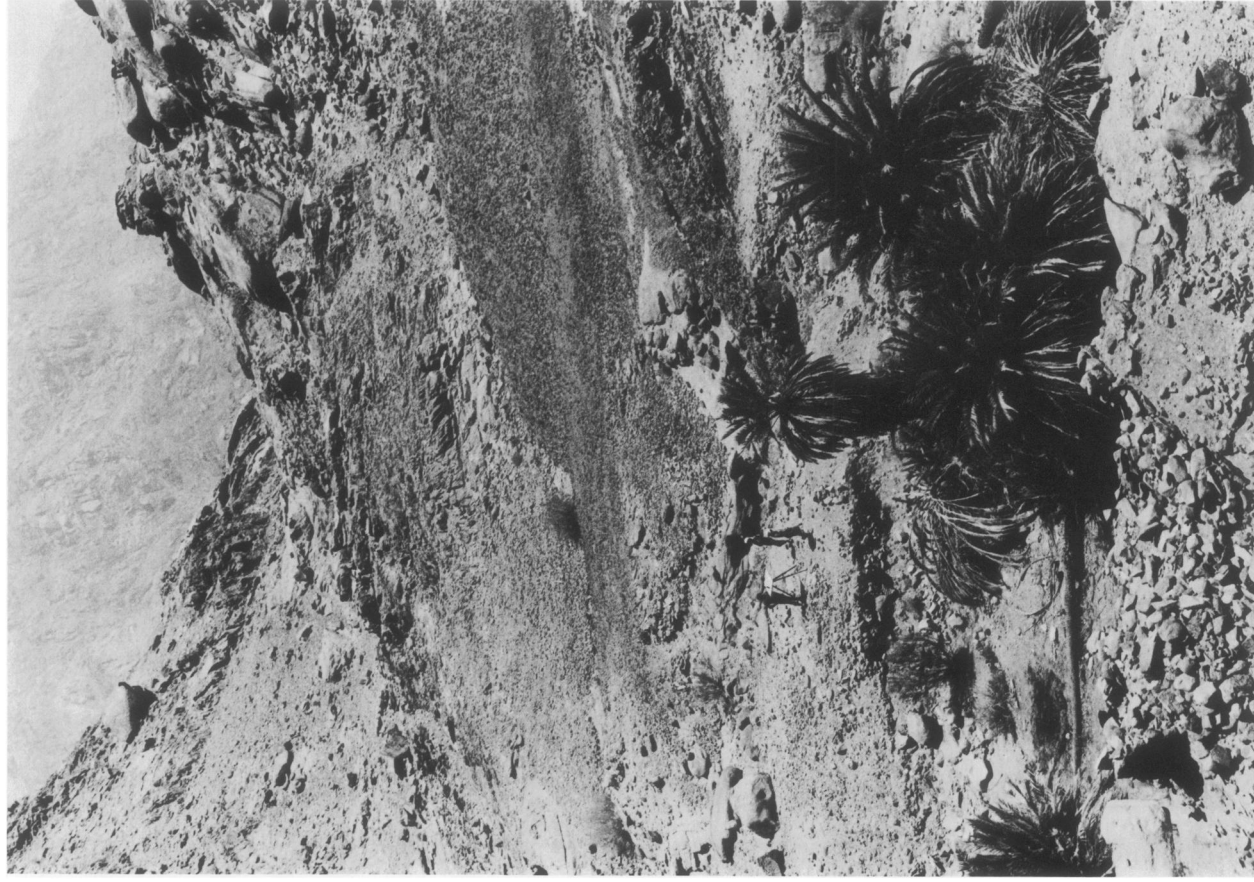
24. El-Khirbe, General View, looking North



25. Ed-Deir, Ancient Path and Main Building, looking West



26. Ed-Deir, Main Building, looking Northeast



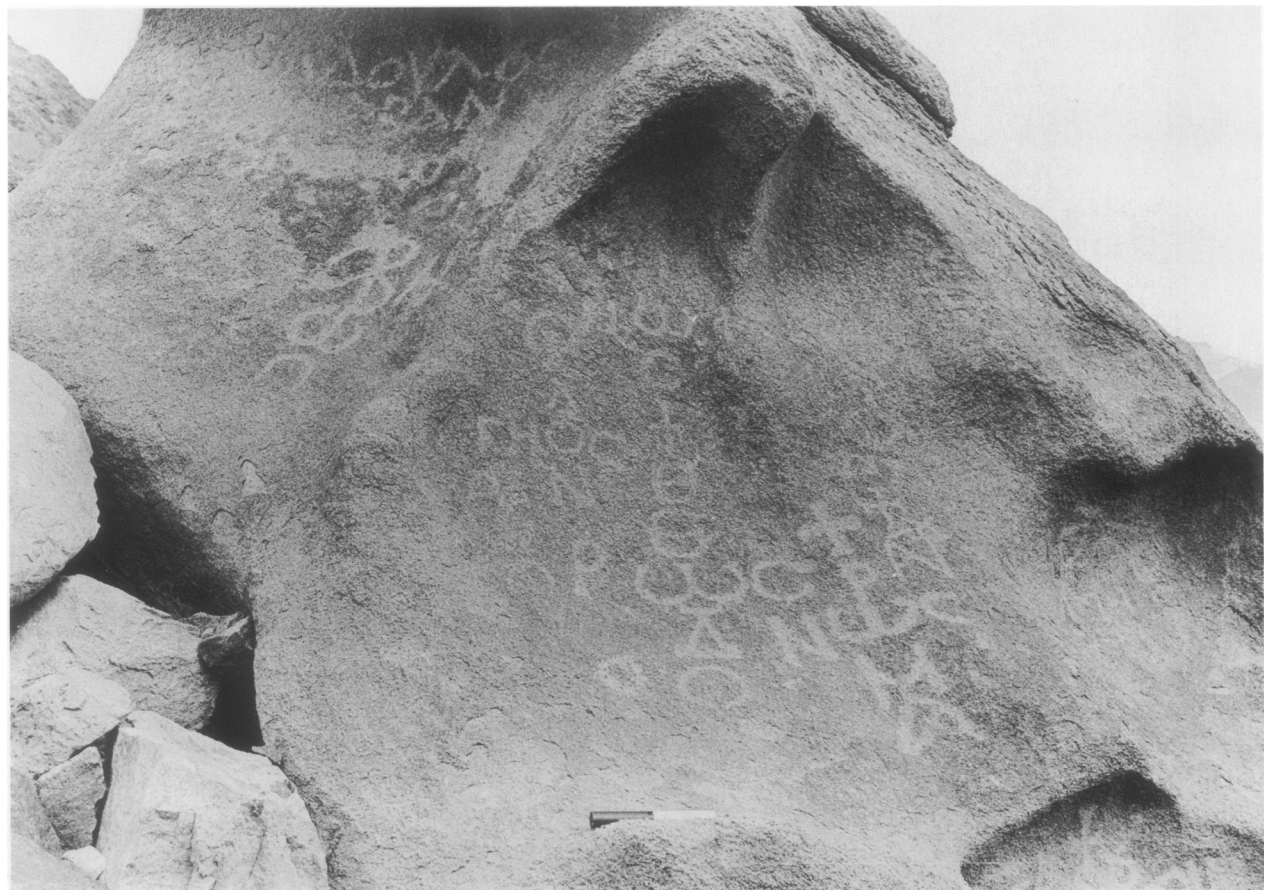
27. El-Fra'iyeh, General View, looking South. Ruins of Chapel in Foreground



28. El-Fra'iyeh, Path leading to Site



29. El-Ma'yen, Hermit Cell



I. Deir Rumhan, General View of Rock and Inscriptions



II. Deir Rumhan, Inscriptions 1 and 2



III. Deir Rumhan, Inscriptions 3, 4, 5, 6, and 7

from without, there is an opening to let out water. Today, the pool is filled with earth. At the southern end of the pool stands an additional dam built of large stones whose northern face is preserved to 2.4 m. Beyond it, to the south, there is an earth fill. The function of this dam was, apparently, to stop the floods from reaching the valley and to cause the alluvial deposits to settle without entering the pool. The water was drained into the pool through an opening in the dam. The size of the pool between the dams was 36×6 m. To the north of the pool a wall continues alongside the eastern rock wall of the valley for about 60 m. The wall, built of relatively large stones, is preserved for only one course, its maximum height being 1.3 m. In its vicinity many fragments of plaster are scattered. It is conceivable that a water conduit was built on the wall, connecting the pool in the south of the complex with that east of the later chapel. Today there is no connection between the wall and the latter pool since the northern part of the wall is totally destroyed. The stones of the wall may have been exploited to build the later chapel.

The valley of St. John's Chapel originally drained into a ravine which ran eastward in the direction of a second valley. This narrow cleft was blocked by a dam, the highest of the mountain, which is preserved on its outer face to a height of 9.1 m. It seems that this facilitated the buildup of earth fill in the valley. The difference in height between its base and the ground surface to its west is 5.6 m. On top of the dam passes a plastered channel whose inside width is 1.45 m. The channel, which spills into the adjacent pool, seems to be the continuation of the retaining wall described above. This deep pool was created by two parallel dams which block a small ravine. Both dams rest against the upright rock which serves as the side walls for the pool. The southern dam is plastered. At its base there is a small opening, possibly for releasing water from the pool.

The "valley of the dams" is a small valley to the east of the valley of St. John's Chapel. The ravine which emerges from this valley northward and drops in the direction of St. Catherine's Monastery drains the entire central area of Jebel Sufsafeh. On the western side of the valley, next to the rock scarp, on a rock step which rises only slightly above the valley floor, there is a small low mound. Remains of a small rectangular building are discernible on this hillock. A paved path connects the valley and the building with the main mountain path. A high, well-plastered dam (9 m. long), built of medium-

sized fieldstones, shuts off the valley at the top of the ravine which emerges from it northward. Its original height was 6.4 m. on its inner face and about 8 m. on its outer face. In the center a repair is visible, which is not plastered. Parallel to this dam, about 1.6 m. south of it, a terrace wall was built which juts out slightly from the earth fill of the valley. Its length is about the same as that of the plastered dam. It seems that the terrace wall and the small mound are the Byzantine remains in this small valley, which was used at the time for agriculture. The plastered dam could not have coexisted with the Byzantine remains because the storage of water in the valley would involve the flooding of the building described above. It was only at a later date that an effort was made to store water here, for which purpose several cracks in the rock walls of the valley were also plastered.

To the north of the valley of St. John's Chapel, close to the viewpoint over St. Catherine's Monastery, remains of two small buildings were surveyed (62 and 63) at the broadening of a rocky wadi. Bricks, broken roof tiles, and much Byzantine pottery were found here.

To the south of the same viewpoint, east of the "valley of the dams," lies site 66, a large building "hanging" on a rock step over the cliffs of Wadi Armezia. A steep path led down to here, and strong retaining walls built on the slope created the area for the building. The building itself (19.5×14.5 m.) apparently consisted of three parts, the western being a massive construction. One of its walls is preserved to a height of 3 m. with two high, narrow windows in it. To the east of this part a courtyard and then another building were possibly attached. Byzantine and glazed pottery sherds were collected at the site.

Complex 70, Farsh el-Lozah (figs. D:6 and L)

In this valley one of the most impressive Byzantine buildings on the mountain is preserved (figs. M and 7); on the rock slope, next to the cliff, in the northeast of the valley, are found the remains of a Byzantine monastery (19×16 m.), one of whose rooms served as a chapel. The semicircular apse of the chapel projects toward the northeast—the local topography dictated the direction of the building. Only the foundations of the upper part of the building (including the apse) are preserved, but as one descends the slope the state of preservation improves. The annexed room in the southwest is preserved to a height of approximately 5 m. The agricultural area below the building is sur-

rounded, for the most part, by stone walls as a defense against the flocks. In the southeast part of the valley a well and a later building are situated, as well as stone walls and two almond trees after which the Farsh el-Lozah valley is named (fig. 8). The main modern path which crosses the mountain traverses the length of the valley. The area of the agricultural plot was approximately 1,250 sq. m.

Complex 100, the Valley of the Chapel of the Zone (Farsh Sufsafeh (figs. D:7, N, and 9)

This complex is located in the northwestern end of the mountain and is farthest from Jebel Musa. The valley is long (240 m.) and narrow (15–40 m.), formed along a line of ravines. Its northern end terminates in a steep gorge, without a path, which descends to Sheikh-Harun at the entrance to the wadi in which St. Catherine's Monastery is situated. The valley is surrounded by rocky cliffs and lofty peaks. On its southern side begins the ascent to Ras Sufsafeh, the summit of the mountain, which rises to the west. The mountain and the valley are named after the willow tree (*sufsafeh* in Arabic) which stands next to the later chapel.

The main modern path which traverses the length of Jebel Sufsafeh enters the valley from the east. This was certainly also the route of the original path which connected the complex with the other parts of the mountain. About 100 m. before reaching the valley, in a place with perpendicular walls where the path runs through a narrow cleft in the rock, foundations of a building are visible on both sides—perhaps a gate through which the path passed.

In the west of the valley, next to the rock cliff, the later Chapel of the Virgin of the Zone (called Kanisat Sufsafeh in Arabic) stands on a low raised platform (fig. S). On the mountain slope to the northwest of the chapel a cross is incised. On the eastern side of the valley, next to the rock slope which shuts it off, stands an early building, apparently a small monastery, about 75 sq. m. in area. The lower courses of its walls are built of large and medium-sized stones. Four rooms are visible in the building. It is possible that the eastern one was a chapel (although there are no signs of an apse) and the western rooms served as living quarters for the monks.

A stone wall surrounds the center of the valley, enclosing the agricultural plot whose area is more than 1,500 sq. m. and which was probably an orchard. On the western slope there is a rock alcove enclosed by a well-constructed wall with an open-

ing. In the south of the valley there was another alcove beneath a boulder, closed by a haphazard construction.

Complex 320, the Valley of the Chapel of Panteleemon (figs. D:37, O, and 3)

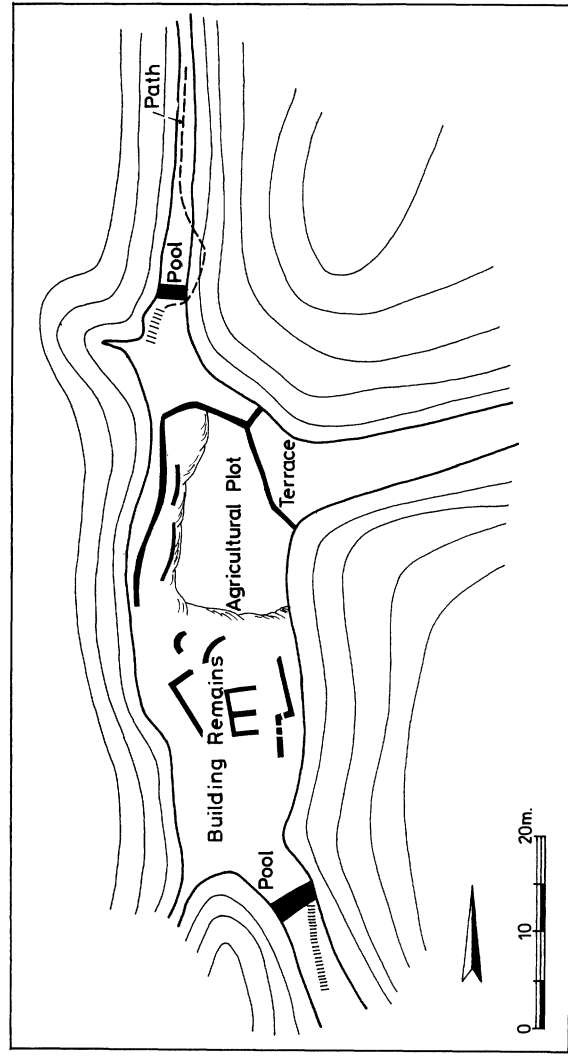
This large valley, close to the southern cliff of the mountain, is about 150 m. long and about 40 m. wide at its broadest. To the west there are two small areas at lower levels (only one of which appears on the plan).

In the north stands the Chapel of Panteleemon and, close by, remains of the earlier, Byzantine building of the complex are discernible. Ruins of an additional building are found on the lower area to the west of the chapel. Stone walls surround the relatively large agricultural plots whose area reaches about 3,000 sq. m. A water conduit enters the valley from the south, catching the runoff from the southern slope of the mountain (see below). The path that ascends from Deir el-Arb'ain also enters the valley from the south. Stepped paths connect the valley with the main path of the mountain (in the direction of Farsh Shoeib) and with complex 210. On the outcrop to the east of the complex there is a hermit's cell.

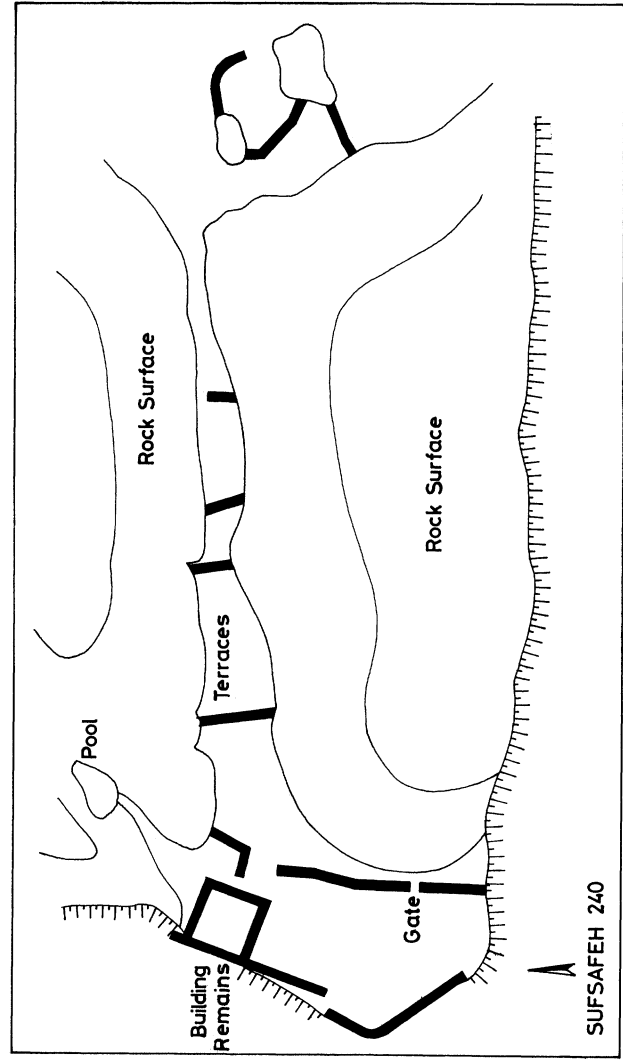
WATER CONDUITS AND POOLS

The mountain monks, who required water both for drinking and for cultivation, learned to exploit the natural environment effectively—the relatively plentiful rains that fall in the Sinai heights resulting in a strong flow of runoff on the red impermeable granite rock. This water was stored in pools,¹⁵ some of which were described above. Several clefts and ravines were blocked with dams, which were plastered together at weak spots in the rock. Dams which had to withstand great water pressure were arched in order to reinforce them. The dams were constructed of two faces of medium-sized and small stones, with rubble in between. Sometimes arrangements were made to divert surplus water. The average area of the pools was 25–50 sq. m., although one pool was as large as 200 sq. m. The depth of the pools, which reached four meters or more, can be determined by the height of the outer face of the dams and the traces of plaster on the rock walls. The pools were filled by means of water conduits or from the water which flowed in the

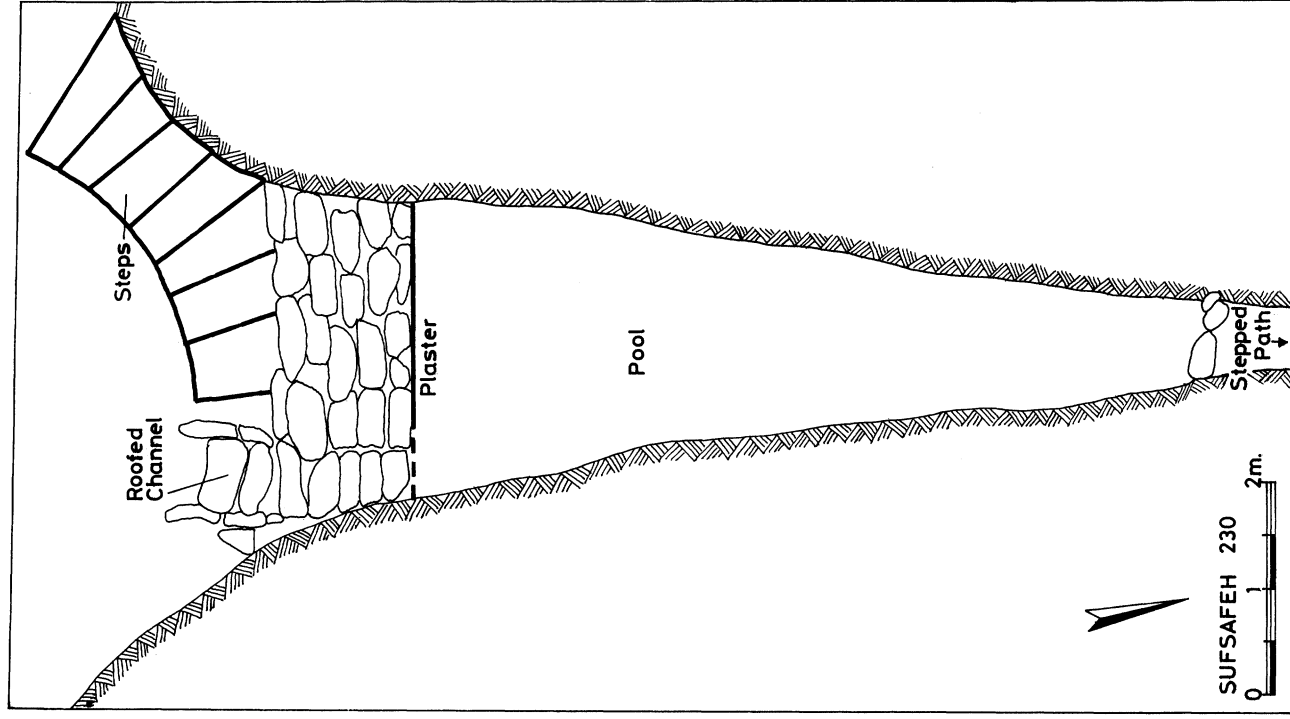
¹⁵ On the mountain there are also two wells, one in the valley of Elijah's Chapel, the second in Farsh el-Lozah. They receive water from the gravel fills in those valleys. Close to the summit of Jebel Musa there is an ancient built water cistern.



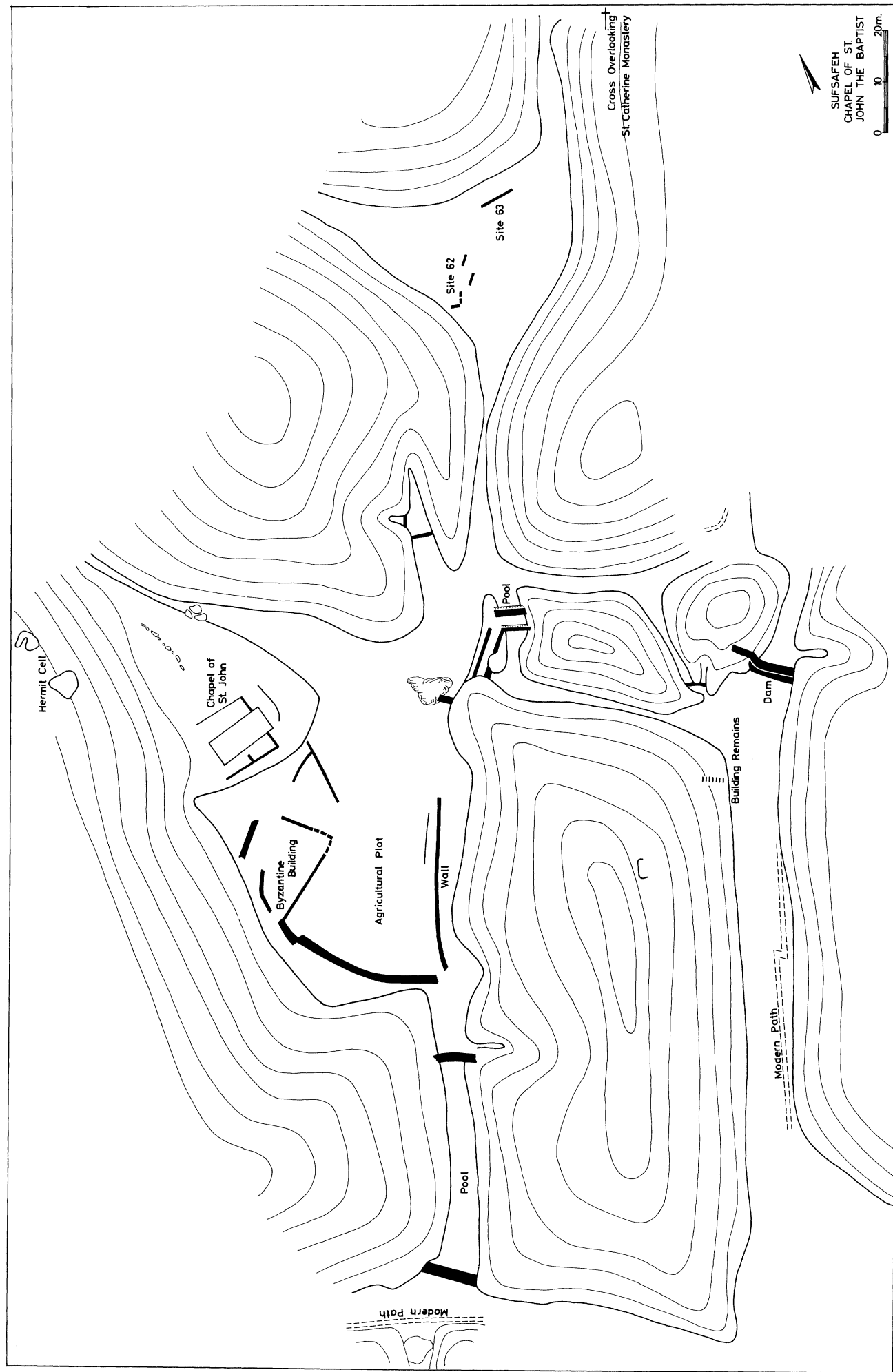
H. Complex 230, General Plan of Remains



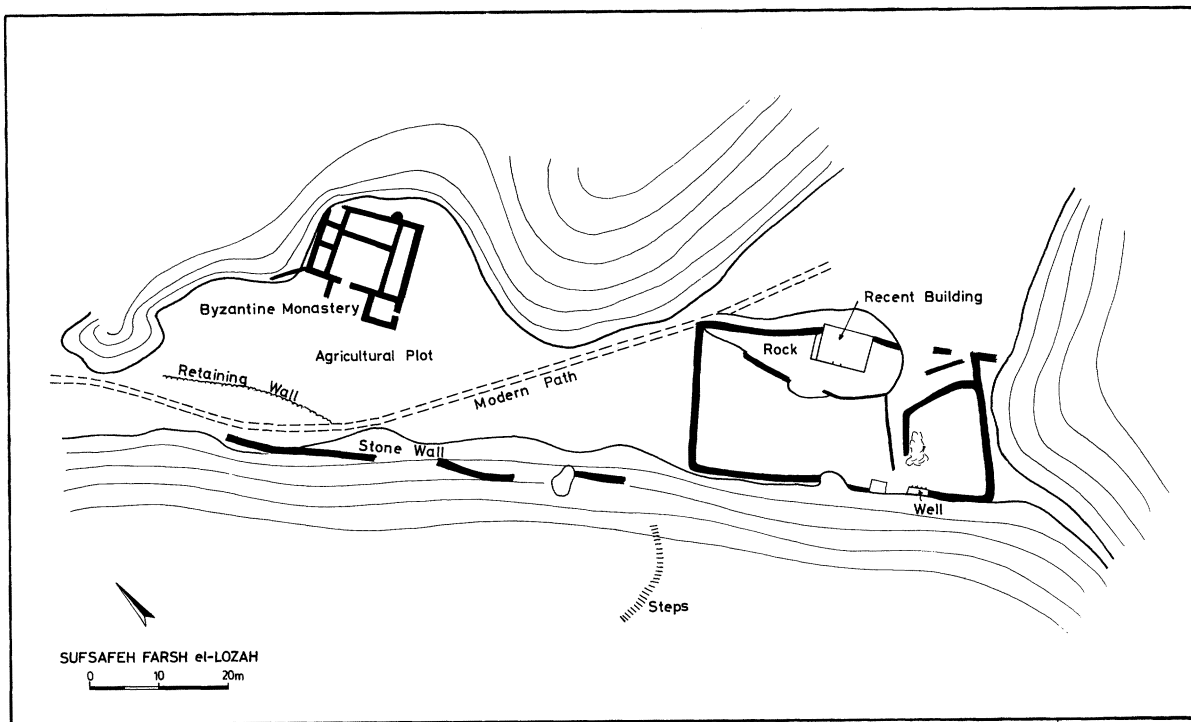
J. Complex 240 (schematic; approximate scale 1:500)



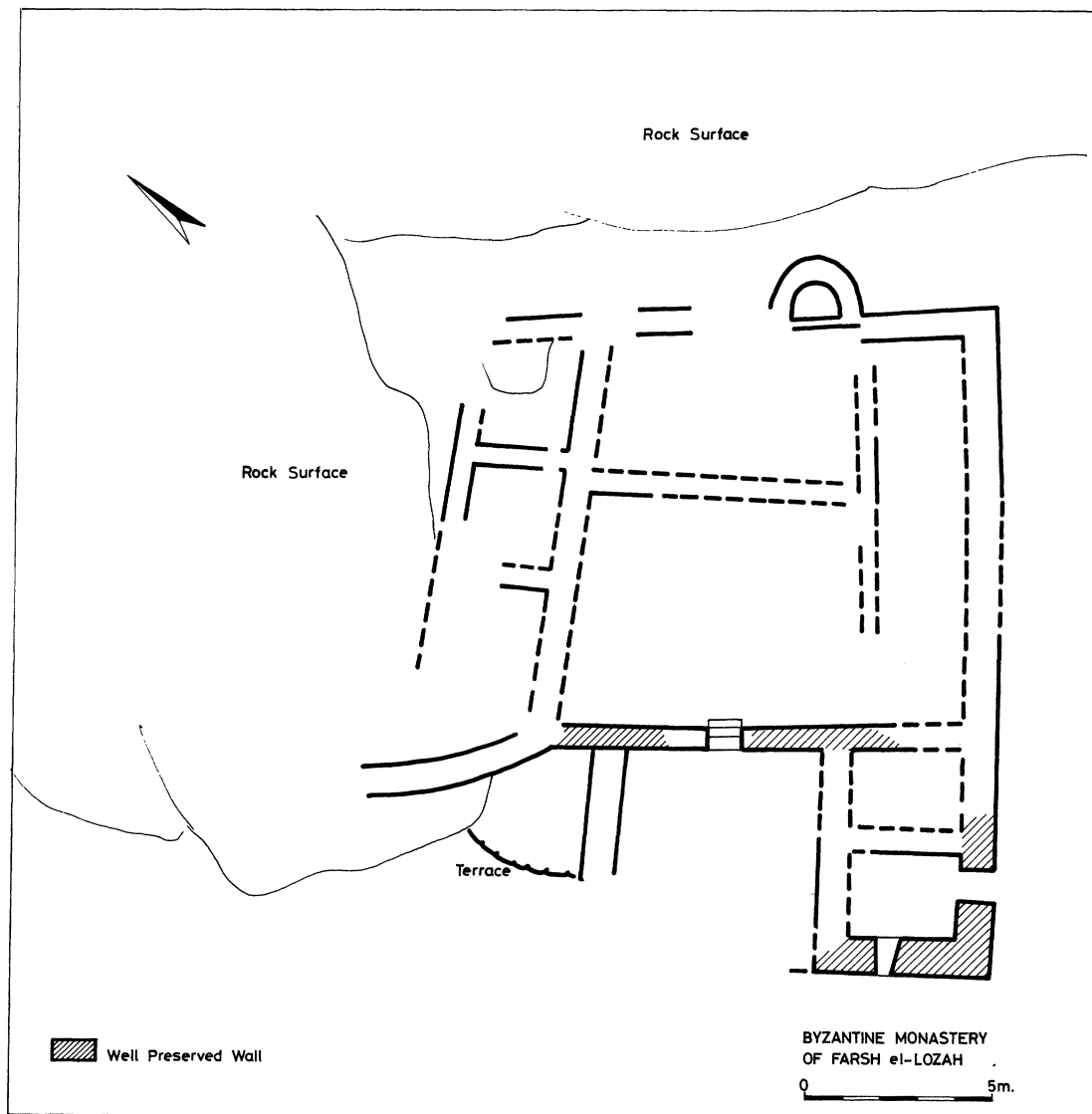
I. Complex 230, Dam and Pool in Northern Ravine (schematic)



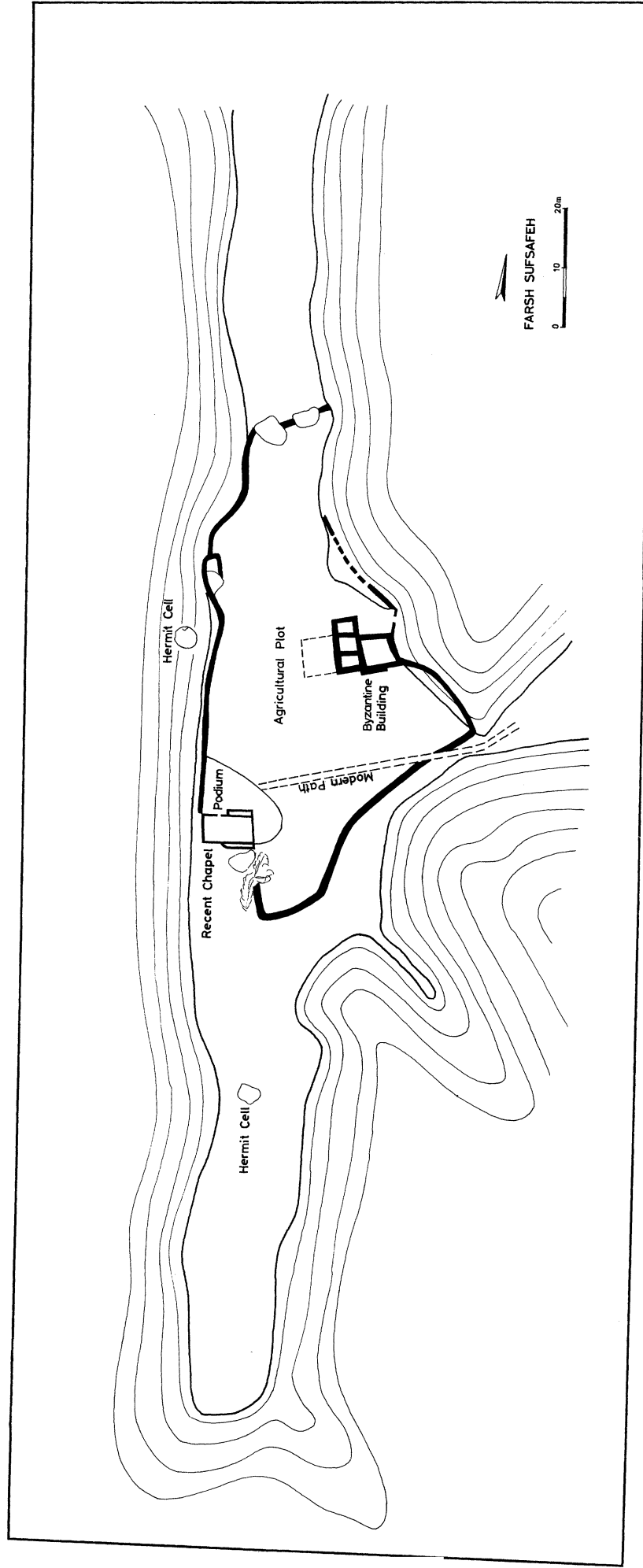
K. General Plan of Valley of St. John's Chapel and Adjacent Remains



L. Farsh el-Lozah, General Plan



M. Farsh el-Lozah, Byzantine Monastery with Chapel



N. Chapel of Zone Complex (Farsh Sufsafeh), General Plan

ravines themselves. In general, water flowed in the conduits between the natural rock and a wall of flat upright stones. Only a few of the conduits were plastered. Retaining walls were sometimes built.

Two water conduits run along the rocky slopes on the southwest cliffs of the mountain, draining the runoff water of the rock surfaces and small ravines of the slope. They begin almost at the same point, leading in opposite directions. One, described above, led to complex 220 (fig. D:9); the second brought water to the valley of the Chapel of St. Panteleemon (fig. D:10). This latter channel is about 250–300 m. long. Along it there are traces of retaining walls. In both cases the channel is built with upstanding stones for one wall and the natural rock for the other (fig. 10). In some places both sides of the channel have had to be built.

Conduit 272 (fig. P), which collected flood water from the central wadi of the mountain, is the largest and most interesting of those surveyed. The conduit collected water from the wadi which descends to Farsh el-Lozah from south to north (fig. D:11). Across the wadi a dam was built, about 17 m. long and 0.75 m. wide. It is preserved to a height of 2 m. on its outer face. There are no traces of plaster on it; for this reason and because the wadi is exposed to the sun, it is clear that there was no pool here. Rather, the flood waters were held back and immediately transferred into a channel which probably begins on the east side of the dam. The wadi spills to the northwest into Farsh el-Lozah, but since the water was to reach the valley of St. John's Chapel it was diverted by a conduit to the large retaining wall visible from the east of Farsh el-Lozah (fig. 11). The purpose of the retaining wall was to maintain height in order to carry the water beyond the raised threshold and to cause it to spill into a small ravine which descends to the pool in the south of the valley of St. John's Chapel. The retaining wall is built against the rock to which it is well fitted. Its width varies from 1–1.4 m., its maximum height is 4 m., and its length 40 m. The channel on top of the wall occupies about half its width (figs. P and 12); one side of it is built of upstanding stone slabs, while the other is the natural rock. The channel was plastered, and stone slabs served as a base for the floor.

HERMITS' CELLS

More than twenty hermit cells were surveyed on the mountain, mainly on rock outcrops and isolated peaks, and only a few close to the valleys that were inhabited. Most of the cells are small—the

minimal size required for a single human being. For this purpose natural alcoves in the rock and large boulders were exploited. The exposed sides were closed up by flimsy building which rendered the alcove fit for "habitation" (fig. Q). Occasionally the interior was plastered.

Two typical cells are described below, together with one more complex structure that was surveyed in the south of the mountain. On the rock hill, to the north of the valley of the Chapel of Elijah and above the top of the "path of the steps" which descends to St. Catherine's Monastery (fig. D:12), there is a narrow, elongated cell accessible by a steep, narrow, stepped path, which exploits a natural crack in the rock. Its entrance is closed off by a wall 1.15 m. long in which an opening 0.5 m. wide was left. On the inside face of this wall there is a niche. Two steps lead down into the cell, the maximum length of which is about 3 m. and the average width and height 1.5 m. There are traces of plaster on the rock walls, and on one of them a cross is drawn.

In the upper part of the rocky outcrop which separates the valley of St. John's Chapel from the "valley of the dams," there is a small cell in the rock (fig. D:13). It is about 2 m. long and its average width and height is about 0.8 m.

A unique structure was surveyed in the southern scarp of the mountain (no. 250, figs. D:14, R, and 13, 14). It is located on the path from the Chapel of Panteleemon to complex 220 (Farsh el-Qasr), in a natural rock shelter. Above and below it the cliffs are almost vertical and in between there is a wide step on which run the path and the water conduit to complex 220. The building looks south for a great distance. The rock shelter, whose height reaches 4 m. on the side of the path, slopes inward and is therefore lower next to the rock which forms its back wall.

The structure consists of a courtyard, an "entrance chamber," and a "recluse cell." The courtyard is closed off on the side of the path by a wall preserved to a height of about 1.5 m., in which an opening is cut. On the rock wall, on the inner side of the courtyard, four crosses are painted in white. In the entrance chamber there are traces of plaster inside and out, as well as mud which served as mortar between the courses. From the entrance chamber one enters the recluse cell, closed on three sides with built walls. The fourth wall and ceiling are of natural rock. The wall facing the path is about 2.5 m. high and in its center there is a window. The walls are plastered inside and out. Three crosses are painted in white on the rock wall opposite the

window (each cross is about 0.25 m. long). The re-
cluse cell is 2.2 m. high. In both rooms some wooden
logs are incorporated in the building.

PRAYER NICHES

One of the most interesting phenomena on the
mountain are fourteen prayer niches discovered in
the survey. These are small stone structures (aver-
age size: 2×2.5 m.) facing east, their west side
being open and their east side in the form of a
semicircular or pointed apse, or a straight wall giv-
ing the structure a rectangular form. Most of them
are concentrated along a path that traverses the
mountain from north-northwest to south-south-
east (see map, fig. D). Pilgrims may have con-
ducted prayers at traditional spots along this path.
This subject was discussed thoroughly elsewhere,¹⁶
and we will not add anything here.

PATHS

A dense network of stepped paths connecting the
mountain with the wadis on both its sides and run-
ning between the building complexes was sur-
veyed. The construction of the paths is totally
adapted to the topography and to the flow of run-
off water. Along them are sections paved with stone
slabs, steps, retaining walls, and arrangements for
water drainage as necessary. The length of the paved
and stepped sections varies from a few meters to a
few dozen. The retaining walls reach up to 3–4 m.
in height.

The few main paths which lead to the mountain
are 1–2 m. wide, whereas most of the paths are
only one stone or step wide. There is no doubt that
most of them were built during the Byzantine pe-
riod, a time when the mountain was the center of
activity for hundreds of monks and pilgrims. The
paths leading up to the mountain are described be-
low in a clockwise direction starting from Sheikh
Harun (see map in fig. D).¹⁷

1. Sikket Shoeib. This path ascends from Sheikh
Harun (at the entrance to the wadi in which St.
Catherine's Monastery is situated) to Farsh Shoeib
in the northwest of the mountain (fig. D:27). The
path runs up a large ravine with sheer walls, full
of boulders. Remains of it are visible only at a few
spots. At its base, on the side of Wadi ed-Deir, there
are substantial remains of Byzantine buildings.

2. Sikket Armezia. A steep stepped path which
ascends from St. Catherine's Monastery to the val-
ley of St. John's Chapel (fig. D:28). The path climbs
between the savage cliffs of Wadi Armezia. Stepped
sections and retaining walls are visible along it.

3. Sikket Syedna Musa (fig. 15). This is the fa-
mous "path of the steps" which runs from St. Cath-
erine's Monastery to the Chapel of Elijah, passing
en route the Chapel of the Virgin of the Oikono-
mos and the arched gates (fig. D:29). It is still used
today and is therefore in good repair. The sources
attest that this was the main path of ascent to the
mountain in the Middle Ages and apparently also
in the Byzantine period.

4. Sikket Basha. A wide camel path that ascends
from St. Catherine's Monastery to Jebel Musa (fig.
D:30), constructed by Abas Pasha in the middle of
the nineteenth century. It is unlikely that this route
was in use in earlier periods.

5. The direct path from Deir el-Arb'ain to Jebel
Musa (fig. D:31). This path is also in use mainly in
recent times.

6. The path from Deir el-Arb'ain to the water-
shed of the mountain, at the top of the wadi that
leads down to the Chapel of Elijah. It climbs up a
steep slope at the border of the red granite of Jebel
Sufsafeh and the dark volcanic formation of Jebel
Musa. Paved and attractive stepped sections are
visible. It appears that already in the Byzantine pe-
riod this was the main ascent to the mountain from
the west. In the Middle Ages, when the tradition
of St. Catherine arose, the path served, according
to the description of the pilgrim, as part of the main
route of the worshipers; St. Catherine's Monas-
tery—Jebel Musa—Jebel Katerina.

7. The path from Deir el-Arb'ain to the valley
of the Chapel of Panteleemon (fig. D:33). This path
has been renovated in modern times. All along it
are paved and stepped sections. A secondary path,
probably Byzantine, which is poorly preserved,
branches off from it toward Farsh el-Qasr (com-
plex 220).

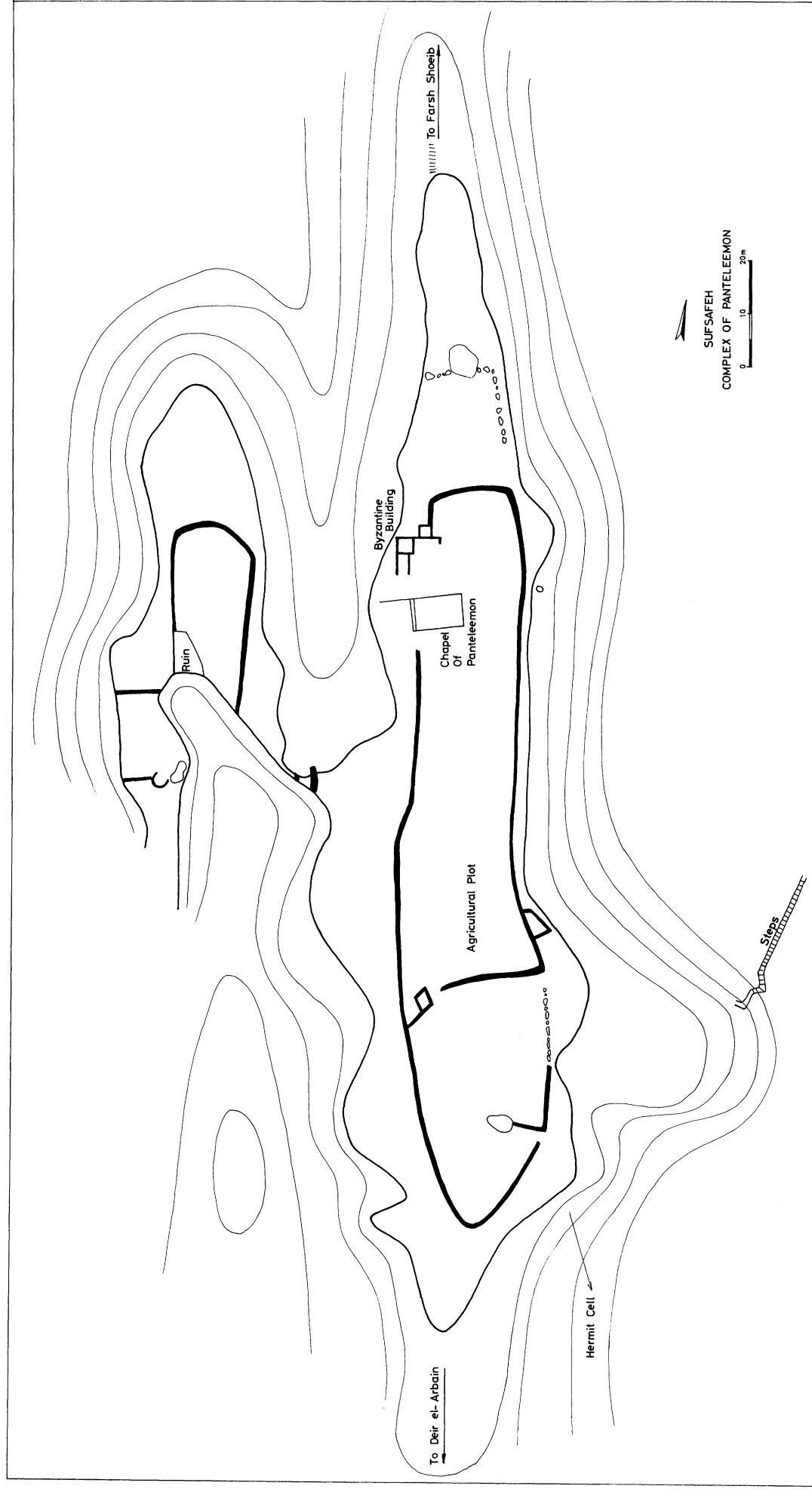
8. Wadi Shreijj. It is possible to climb the moun-
tain from this wadi as well, and here too there are
some traces of a path, which connected with num-
ber 7.

The main Byzantine paths were, therefore, from
Wadi ed-Deir: Sikket Syedna Musa, Sikket Arme-
zia, and Sikket Shoeib (this last one is apparently
associated with the line of prayer niches described
above); from Wadi el-Arb'ain: the direct path to
the Chapel of Elijah.

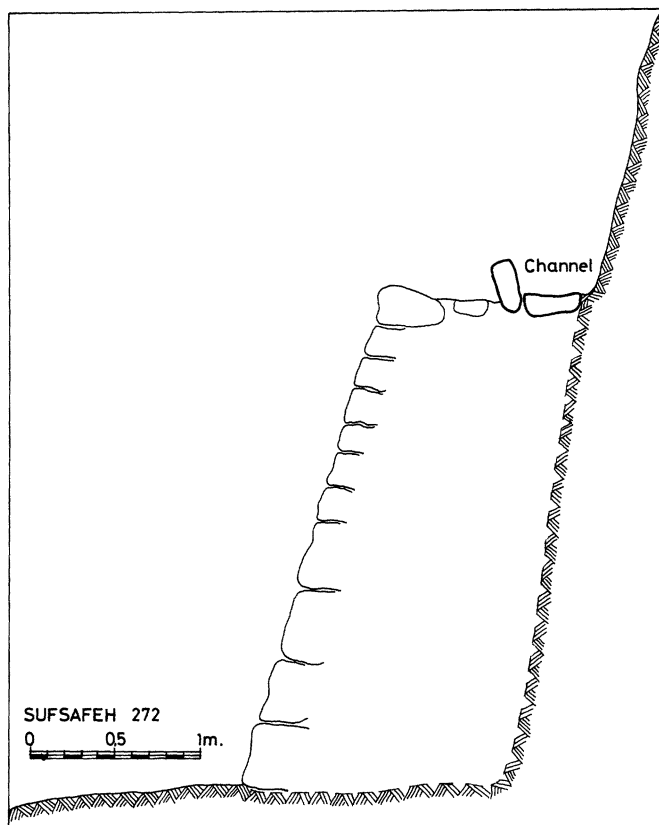
The highlight of the survey, as far as the net-

¹⁶ I. Finkelstein, "Byzantine Prayer Niches in Southern Sinai,"
IEJ, 31 (1981), 81–91.

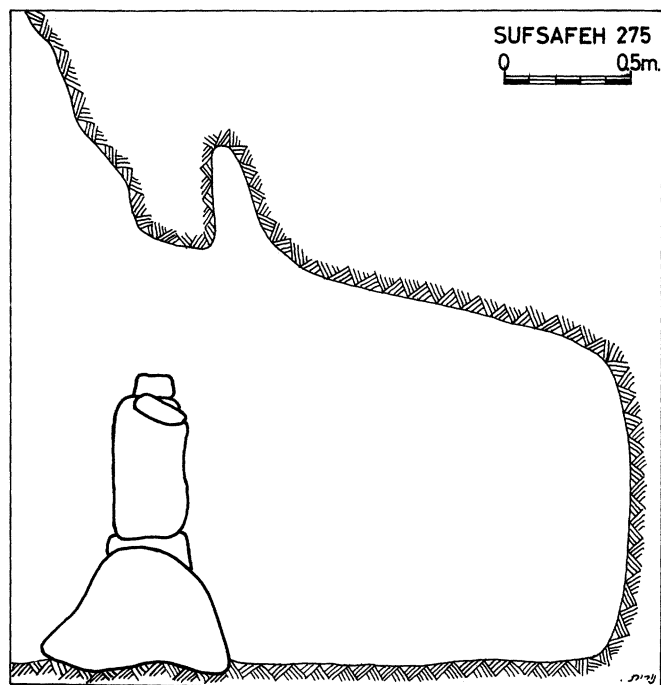
¹⁷ See a partial list of five paths in E. H. Palmer, *The Desert of
the Exodus* (Cambridge, 1871), 114–15.



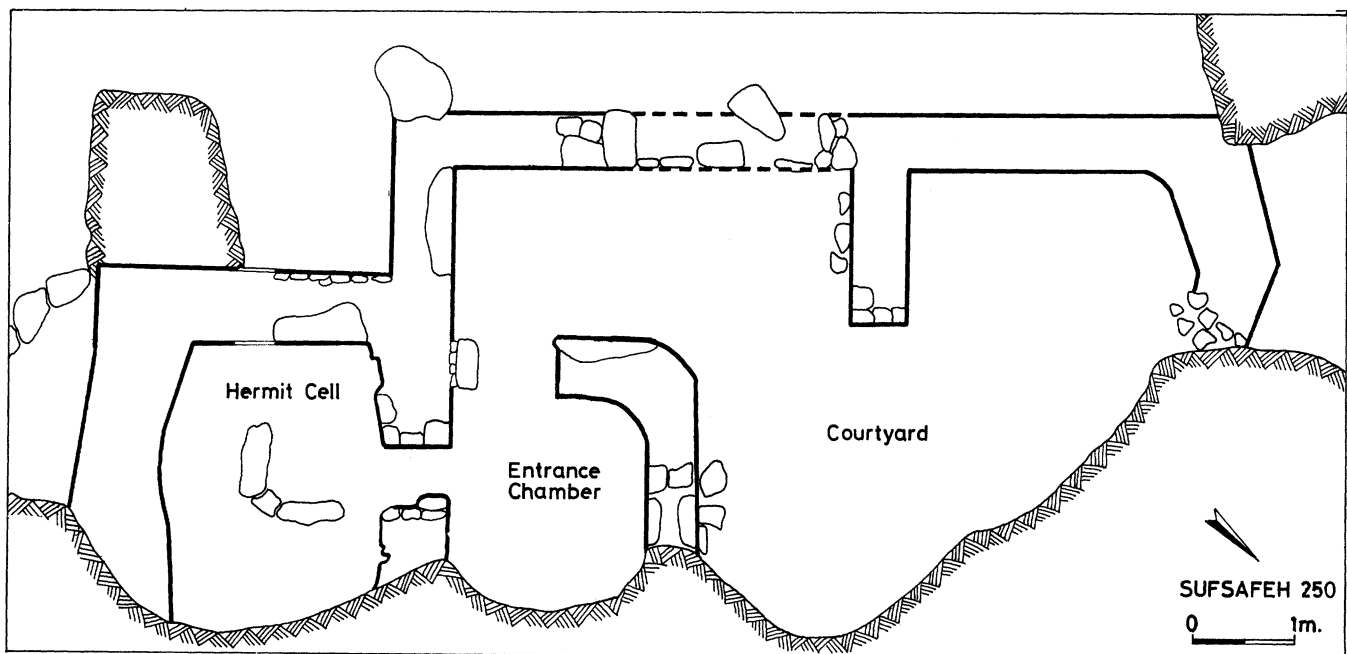
O. Complex 320, Valley of Chapel of Panteleemon



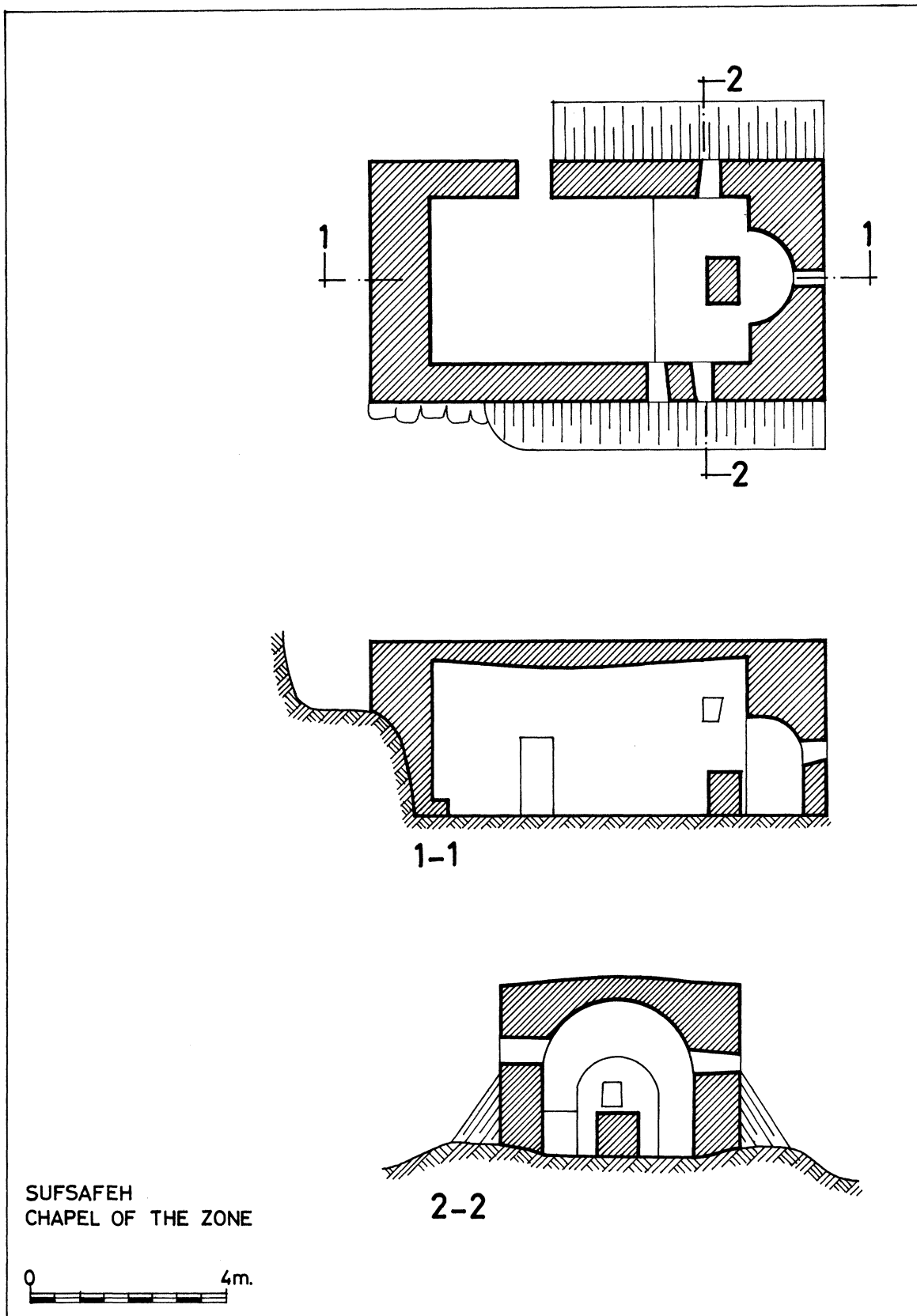
P. Conduit 272, Section of Retaining Wall and Channel



Q. Section of Hermit Cell



R. Plan of Structure 250



S. Plan and Section of Later Chapel of Zone, Typical of Later Chapels on Mountain

work of Byzantine paths is concerned, is certainly the one which climbs to the summit of Jebel Musa to the southwest of the main path which is in use today (fig. D:34). The name of this path, which continues the line of the "path of the niches" (fig. D:34) described above, is Sikket Shahareij (*shahareij*, Arabic for water cistern), after the cistern on the summit up to which it leads. The path branches off from the one leading from the Chapel of Elijah to Deir el-Arb'ain in a southwesterly direction, and some sections of fine steps along it were preserved (fig. 16). At its upper part the path ascends in a steep and narrow dyke with upright walls.

A number of paths, leading to the mountain and on the mountain itself, were built a few dozen years ago. These paths have certain characteristics which are unmistakable: a slight raised side made of large fieldstones, flat on top, paved sections, long "steps," and several small channels for water drainage. Some of the paths in the vicinity of Deir el-Arb'ain are of this type, as well as the main path which crosses the mountain from the Chapel of Elijah via Farsh el-Lozah to the valley of the Chapel of the Zone (fig. D:35). It is thus not difficult to distinguish between the early paths and those built in modern times.

Summary and Conclusions

The Byzantine remains of Jebel Sufsafah, identified with biblical Horeb, very well characterize the nature of monastic settlement in the Sinai heights generally and on the red granite ridges in particular.

The requirements for survival and deep religious belief led the mountain monks to undertake extensive and impressive building activity. Were it not, however, for the unique physical conditions of the region—the nature of the red granite and the unusual climatic regime—it seems that the monastic phenomenon could not have reached such heights.

The connection between the natural environment—rock formations, topography, and cli-

mate—on the one hand and the settlement on the mountain on the other is one of the most interesting facts learned from the survey. This connection finds its expression in almost every aspect—the building of dams and pools for water storage at suitable places, the preparation of hermits' cells, the creation of a network of paths on the mountain, and, of course, the choice of location for the construction of small monasteries and the preparation of tiny agricultural plots. The limited area for cultivation and problems of drainage led to the construction of the buildings, usually on a slightly raised rock step or on an artificially retained platform on the margins of the valley. The harsh winter climate was also a factor in the choice of the location of the buildings, which mainly faced south, at spots exposed to the sun for as many hours of the day as possible. There is hardly a valley on the mountain, whatever its size, that was not exploited. Stone terrace walls were built to prevent soil erosion (at the outlets of the valleys), and in some cases soil was even brought in for the agricultural plots. The area of these plots, in which fruit orchards were certainly planted, together with vegetable beds and perhaps some small grain plots, was 250–1,000 sq. m.¹⁸ A calculation of the number of complexes and hermits' cells, the size of the buildings, and the area of the plots surveyed leads to the cautious estimate that about one hundred monks or more could have subsisted on the mountain (on the assumption that all the buildings were in use contemporaneously, at least in the sixth century).

After the Arab conquest in the mid-seventh century, Sinai monasticism declined, and Jebel Sufsafah was deserted. In medieval times a few chapels were constructed on the mountain, but there was no revival of the intensive monastic activity.

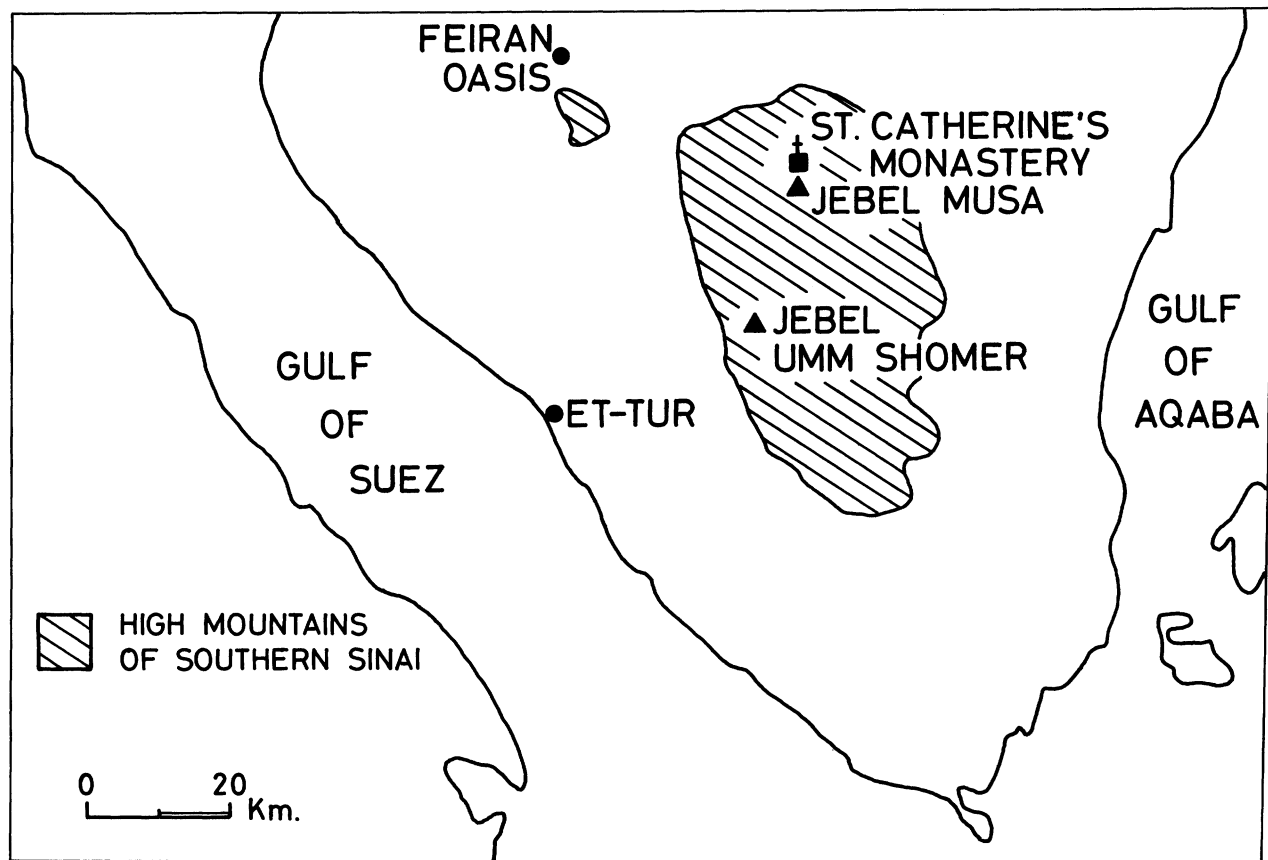
¹⁸Much can be learned on the significance of plots of this size for the subsistence of monastic communities from the research of Perevolotsky (*supra*, note 9). The average area of a Bedouin desert orchard in the Sinai Heights is about 0.3 acres. It contains about 50 trees as well as vegetable beds, which supply about half the annual energy requirements of a Bedouin family. For details on this subject see his work.

II. THE VICINITY OF JEBEL UMM SHOMER

Although research on Sinai monasticism in the fourth to seventh centuries has gained momentum in recent years, with excavations and surveys being carried out in some of its centers,¹⁹ this

¹⁹See this study, Part I. To date no other studies have been published.

activity has omitted the vicinity of Jebel Umm Shomer in the southwestern corner of the mountainous region in the peninsula (fig. T). In this area travelers and explorers were familiar with only two sites—Deir Antush and Deir Rumhan, which were generally considered as secondary sites of the cen-



T. Southern Sinai, General Map

ter at Raithou,²⁰ but here, too, no thorough study had been undertaken. Two additional sites mentioned in the recent literature—Deir Muwajed and Deir Umm Arad²¹—were apparently known only from Bedouin accounts and, it seems, had hardly been visited; because of the remoteness of the region and its isolation, even the few travelers who reached the area followed only the main desert routes.

In 1978 a preliminary survey was carried out in this region.²² The two known sites were checked and others were discovered. Altogether eleven

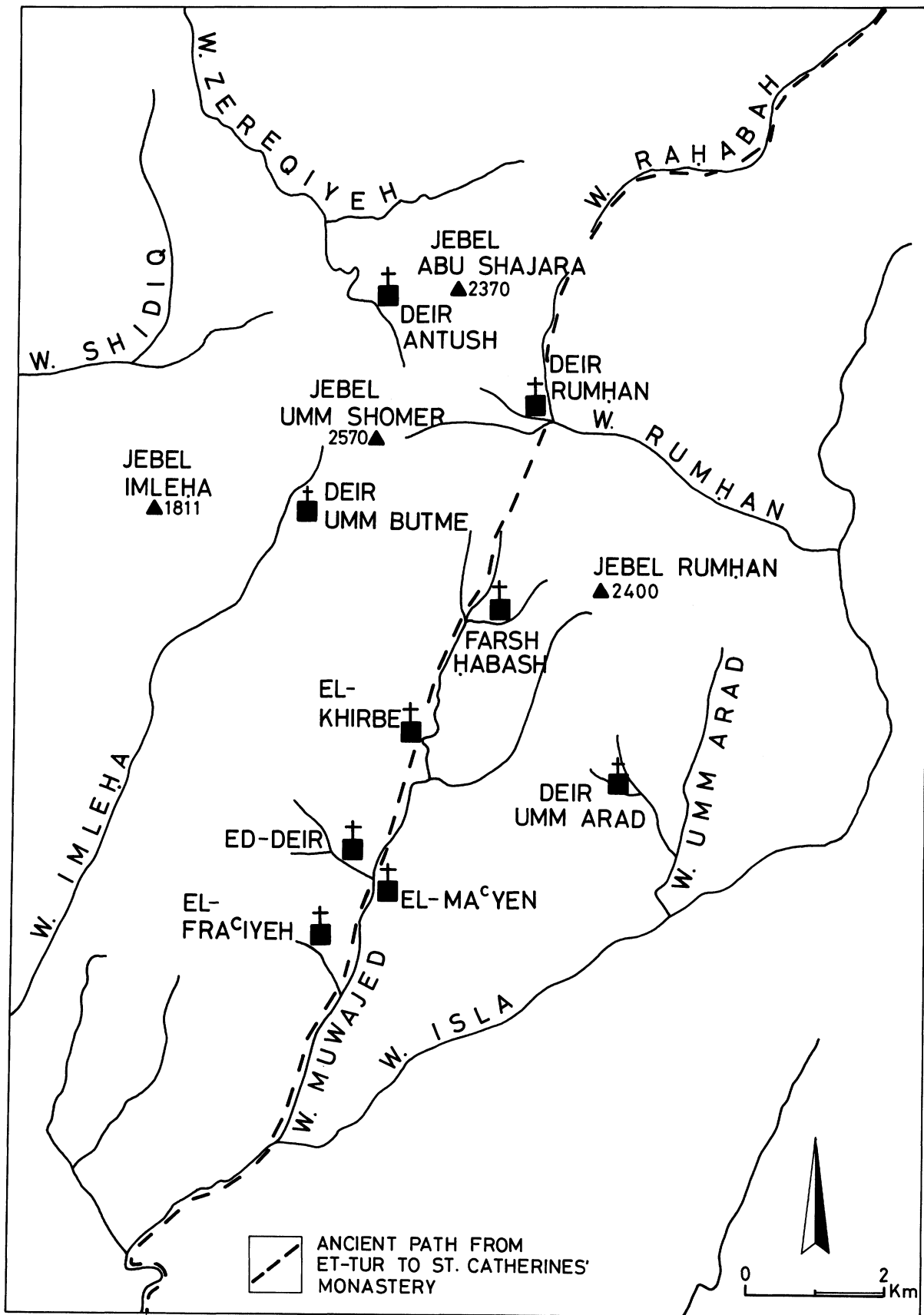
Byzantine complexes were surveyed (fig. U),²³ only eight of which are described here, and an interesting picture of the pattern and nature of monastic settlement in this unknown area came to light. The survey concentrated on the wadis around the massif of Jebel Umm Shomer and Jebel Rumhan: Wadi Zereqiyeh, Wadi Rumhan, Wadi Umm Arad, and Wadi Muwajed. In the center of the area the red granite massif of Jebel Umm Shomer rises to a height of 2,570 m. above sea level and Jebel Rumhan to a height of 2,400 m., forming a landscape of wild rugged peaks. The gray granite of Jebel Abu Shajara, lying close by, forms a less harsh

²⁰ Tsafirir, "Monks and Monasteries" (*supra*, note 1), 5.

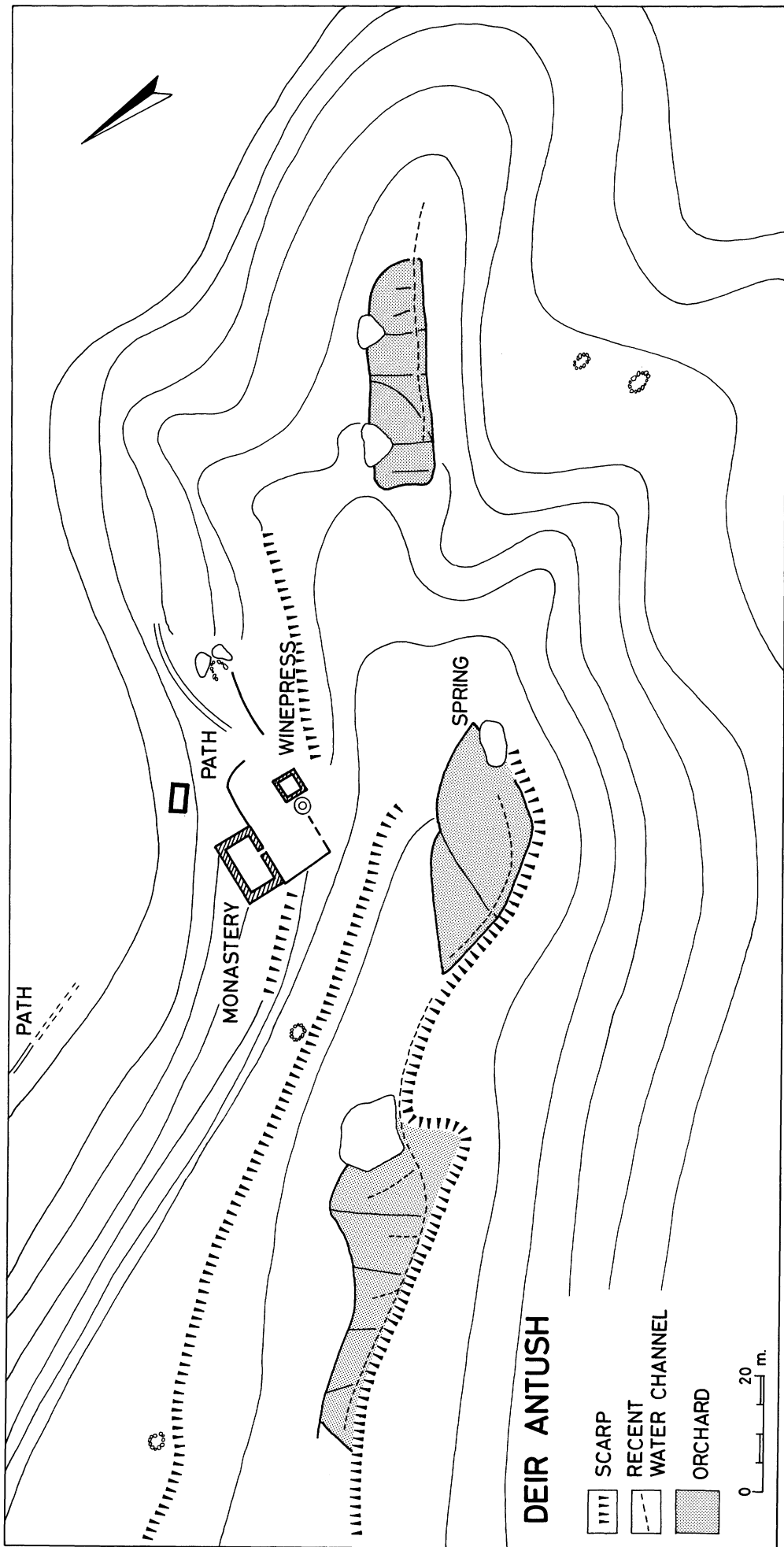
²¹ Z. Meshel, *Southern Sinai* (Jerusalem, 1971), 53 (Hebrew); Tsafirir, *op. cit.*

²² The survey was carried out by the writer with the assistance of Na'ama Field School of the Society for the Protection of Nature in Israel. A. Goren, then archeological staff officer for Sinai, participated in some of the work. Y. Teper was the surveyor, and Bernardina Lutinger prepared the plans. The manuscript was translated by Yardena Alexander and prepared with the help of the Moskowitz Chair for the Land of Israel Studies, Bar Ilan University.

²³ All the complexes described here are Byzantine, i.e., datable in the fourth to seventh centuries. In four of them (Deir Antush, Deir Rumhan, Farsh Habash, and el-Khirbe) there are a few medieval remains which will be indicated below. The buildings found in the survey were dated on the basis of two arguments: 1. pottery found around them; 2. clear and unmistakable differences between Byzantine and medieval structures (the only two periods to be found in the sites) in method of construction. Byzantine buildings are rectangular, constructed with chiseled blocks, whereas later structures are poorer—corners are rounded and walls were usually made of fieldstones.



U. Jebel Umm Shomer Region



V. General Plan of Remains

landscape. The major wadis of the region begin in the slopes of these mountains and drain into the Gulf of Suez: Wadi Zereqiyeh descends to the northwest, Wadi Rumhan goes eastward, and Wadi Umm Arad, Wadi Muwajed, and Wadi Imleha run south into Wadi Isla and the plain of el-Qa. The large wadis are relatively wide and passable on the whole, but they also form short canyon sections. The secondary wadis, on the other hand, form a wild, cliff-like landscape. There are many small water sources in these ravines.

Description of the Sites

Deir Antush—G.R. 59011395 (UTM grid), height 1,775 m. above sea level

A complex of buildings remains at the head of Wadi Zereqiyeh. To the south Jebel Umm Shomer rises in all its glory. The site was known to explorers and travelers from the beginning of the nineteenth century. It is already referred to by Burckhardt,²⁴ but a thorough study of his short and unclear description indicates that he almost certainly is speaking of the nearby Deir Rumhan. Burckhardt provides us with the interesting information that a place by the name of Deir Antush on the main route from et-Tur to the monastery is mentioned as an important spot in Sinai in a fifteenth-century document which he saw in St. Catherine's monastery. Burckhardt was told by the monks that this small monastery was occupied until the beginning of the eighteenth century and was the last place that they abandoned. This information apparently relates also to the neighboring monastery whose large orchard belongs to St. Catherine's Monastery even today, and where a group of medieval buildings was surveyed. Palmer also mentions the site—his picturesque and romantic description grasps some of the special atmosphere of the region:

In Wady Zeraigiyeh also stands the ruined convent of Mar Antus, now quite dismantled and deserted. In front rises Umm Shomer, a magnificent mass divided into huge jagged peaks, with innumerable chasms and two great ravines running down its sides. On the left the twin peaks of Jebel Rimhan tower majestically into the air, scarcely inferior to Umm Shomer in height or romantic beauty of form, and further still is the huge rounded block of Jebel eth-Thebt. There was something even terrible in the desolate seclusion of the silent little convent buried in the heart of this gaunt, stony desert; it seemed the very petrification, as it were,

of asceticism, soon to rank with other fossil monsters, and tell its tale of extinct superstition and depravity.²⁵

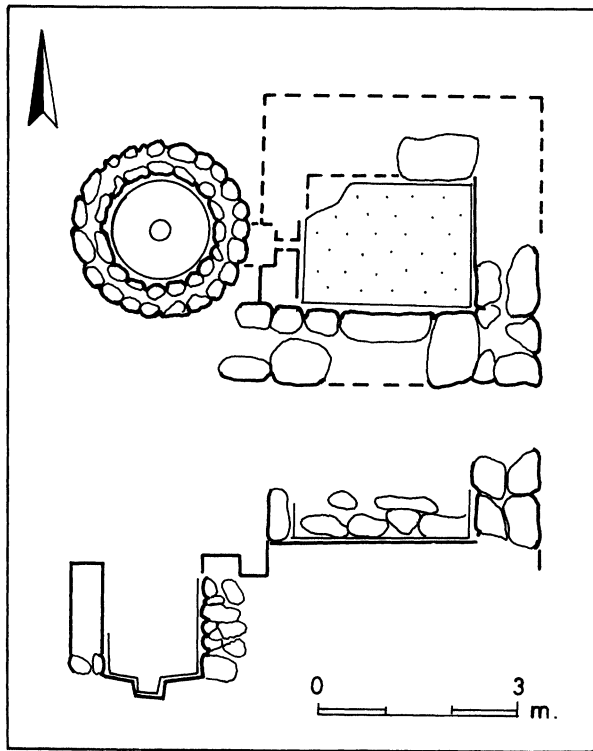
The building complex spreads over both sides of the wadi, with its spring recognizable because of its surrounding vegetation. The central building is on the northern slope, and around it there are additional structures, agricultural installations, terraces, and stone fences (fig. V). The main building, apparently a monastery,²⁶ stands on a rock surface above the wadi (fig. 17). It is built of large and medium-sized granite stones, planed and sometimes even dressed, particularly at the corners. The rectangular building measures about 11 × 7 m. and stands today to a height of 3–4 m.; in one corner the wall reaches 7 m. In the south wall an opening, 1.6 × 0.7 m., is cut. It has a raised threshold, probably reached by steps. The threshold, lintel, and doorposts are well dressed. In the eastern and northern walls there are a few small windows widening on the inside, giving the building a fortified character. The building is full of collapsed material, under which a few inner partition walls are visible. A few meters to the northeast of the central building there is a second structure in ruins. On the southern bank of the main wadi, southeast of the central structure, remains of an elongated orchard surrounded by stone walls and divided by terraces forming cultivable plots are visible. There are additional terraces on the slope, and on the other side of the wadi, opposite the central building and to its west, the remains of plots with stone fences and retaining walls can be seen. In all, there were about 1,250–1,500 sq. m. of agricultural land. In the complex there are also a number of later buildings, apparently from the Middle Ages and recent generations.

An important and rather surprising discovery was a winepress, situated about ten meters to the south of the central building and a little beneath it. This was the first Byzantine winepress to be found in the Sinai Peninsula (see *infra*). It consists of a treading surface, a sedimentation pit, and a vat for collecting the wine (fig. W). The treading surface is rectangular, 2.6 × 1.95 m., and is extremely well plastered. Its walls, built of large stones, stand to a height of 0.7 m. In one spot the wall is preserved to a height of 1.4 m. and the plaster is 0.9 m. high. In the side of the treading surface there is a hole

²⁵ Palmer, *The Desert of the Exodus* (*supra*, note 17), 248.

²⁶ This building, together with those of ed-Deir and el-Fra'iyyeh, was excavated later. See Dahari and Goren, "Sinai Monasticism" (*supra*, note 1), 40–44.

²⁴ J. L. Burckhardt, *Travels in Syria and the Holy Land* (London, 1822), 590.



W. Deir Antush, Winepress

through which the liquid drained into the sedimentation pit. This latter was poorly preserved, but can be discerned because of the plaster which remained on some stones. Immediately beneath it a large round pit was constructed to receive the liquid. It has a diameter and depth of 1.5 m. and was also completely plastered. In the center of its floor there is a small round depression with a diameter of 0.3 m. and a depth of 0.2 m. to facilitate the collection of the dregs of the liquid when it was transferred to jars.

Deir Rumhan—G.R. 59231381, 1,625 m. above sea level

A large and important complex in the upper part of Wadi Rumhan (figs. X and 18), across which it looks to the impressive high-rising peaks of Jebel Rumhan and Jebel Umm Shomer. In the wadi there is a very large orchard of fruit trees which belongs to St. Catherine's Monastery and is cultivated by Bedouins, who dug a pool fed by the water table. The site is located on the route from St. Catherine's Monastery to et-Tur (see *infra*), and, as we have seen, Burckhardt was probably referring to this spot when he recorded donkey caravans crossing the region on their way to the Gulf of Suez.

The central building (figs. Y and 19) was certainly a monastery. It is massively constructed of large- and medium-sized granite stones, some dressed, with small stones between the courses. The walls are preserved to a height of 1–2.5 m. The building is full of rubble and its interior plan cannot be determined. The south wall facing the slope has largely collapsed. Here two doorpost stones can be seen, which indicate that the entrance to the building was in the south, as at Deir Antush. The east wall is in the best state of preservation, and a few small windows are visible. A later structure is adjacent to the east wall. Next to the southeast corner of the building there is a large boulder whose west face is engraved with crosses and Greek inscriptions (see A. Ovadia's article *infra*). To the south, in the direction of the slope, there are a number of retaining walls which support the structure and its courtyard. Twenty meters to the southwest of the major building there is a rectangular pool whose inner face is constructed of large- and medium-sized stones with traces of plaster on them. The pool stands to a height of 1–1.5 m. On the side facing the slope it is supported by an inclined retaining wall. The pool apparently received the water from a branch of the large water channel which reaches the site from the west. On a low terrace on the south bank of the wadi, about 250 m. southeast of the major building, there is an additional poorly preserved structure around which Byzantine pottery was found. It seems that Byzantine cultivation plots were larger than the present orchard, since their remains are to be found also upstream in the wadi, next to a dry water source; there are also remains of a plot, about 1,000 sq. m. in area, with stone fences on different levels, in the parallel wadi to the south.

The water channel of Deir Rumhan, which is about 1 km. long, is perhaps the most impressive so far surveyed in southern Sinai. It is plastered and built along its entire length of large- and medium-sized stones, some of which are dressed. Its average gradient is quite steep—about 12.5%—and, since it was built to trap flood waters, it was planned to carry the maximum quantity of water in the minimum amount of time. The channel begins on an enormous sloping rock surface located in the wadi, which descends from Jebel Umm Shomer eastward in the red granite landscape. The drainage area of the wadi is not large, but on the almost impermeable red granite rock most of the rain water flows as runoff. The water channel apparently caught the runoff immediately below the sloping

rock surface, but accumulation of alluvial material and boulders make it difficult to locate the exact spot. Along the length of the channel there are many well-preserved sections (fig. 20). The side stones stand upright on the large slabs which served as the floor. The channel is about 0.2–0.35 m. high and 0.2–0.3 m. wide. The floor slabs were about 0.5 m. long. In one place the channel has retaining walls 1.0–1.5 m. high, and at another there is a section hewn in the rock and paved with stone slabs. At the descent to the complex the gradient of the channel is very steep, and to overcome this a step-like construction was undertaken. The channel certainly filled large reservoirs in the vicinity of the central building. On the ridge separating the two courses of Wadi Rumhan there are a number of later structures, apparently connected with agricultural activity in the Sinai heights in the Middle Ages. These buildings may be associated with Burckhardt's account of fifteenth-century activity in the vicinity. They may have served as the living quarters of the orchard owners at the height of the agricultural season and as storage for the agricultural produce.

Deir Umm Arad—G.R. 59391328, height 1,225 m. above sea level

A small monastic building on the slopes of Jebel Rumhan, in a remote, narrow ravine with steep cliffs of red granite and diorite formations. The ravine, which descends into Wadi Umm Arad, is called Wadi Deir (the wadi of the monastery). The place is mentioned, as noted above, in some of the limited literature which deals with Sinaitic monasticism, but apparently we were the first to visit it in modern times. The ascent to the site is very difficult, and in only a few places the stubs of the retaining walls of an early path were extant. The building was erected on rock jutting out over the meeting place of two small ravines. There is a splendid view from here toward the south (fig. 21). A stairway leads down from the building to a small spring with vegetation a few meters below. The place no doubt served only a few monks and exemplifies the extremely isolated life of hermits who sought refuge in nature by establishing themselves at a distance from main monastic centers.

In contrast to those of Deir Antush and Deir Rumhan, this building is constructed of small stones. It is of relatively poor construction and its plan is irregular (fig. Z). The building is filled with collapsed stones, earth, and stone slabs (from the roof?), but it is still possible to discern two piers

and a few small rooms, in the wall of one of which there are four "cupboards." The outer wall of the building is based directly on the jutting rock and is slightly slanted for strength. Its northeast face is rounded, probably forming an apse, and is extant to a height of 2.5 m. A small window can be seen at the top of the southeast wall, which stands to a height of two meters.

The Sites in Wadi Muwajed

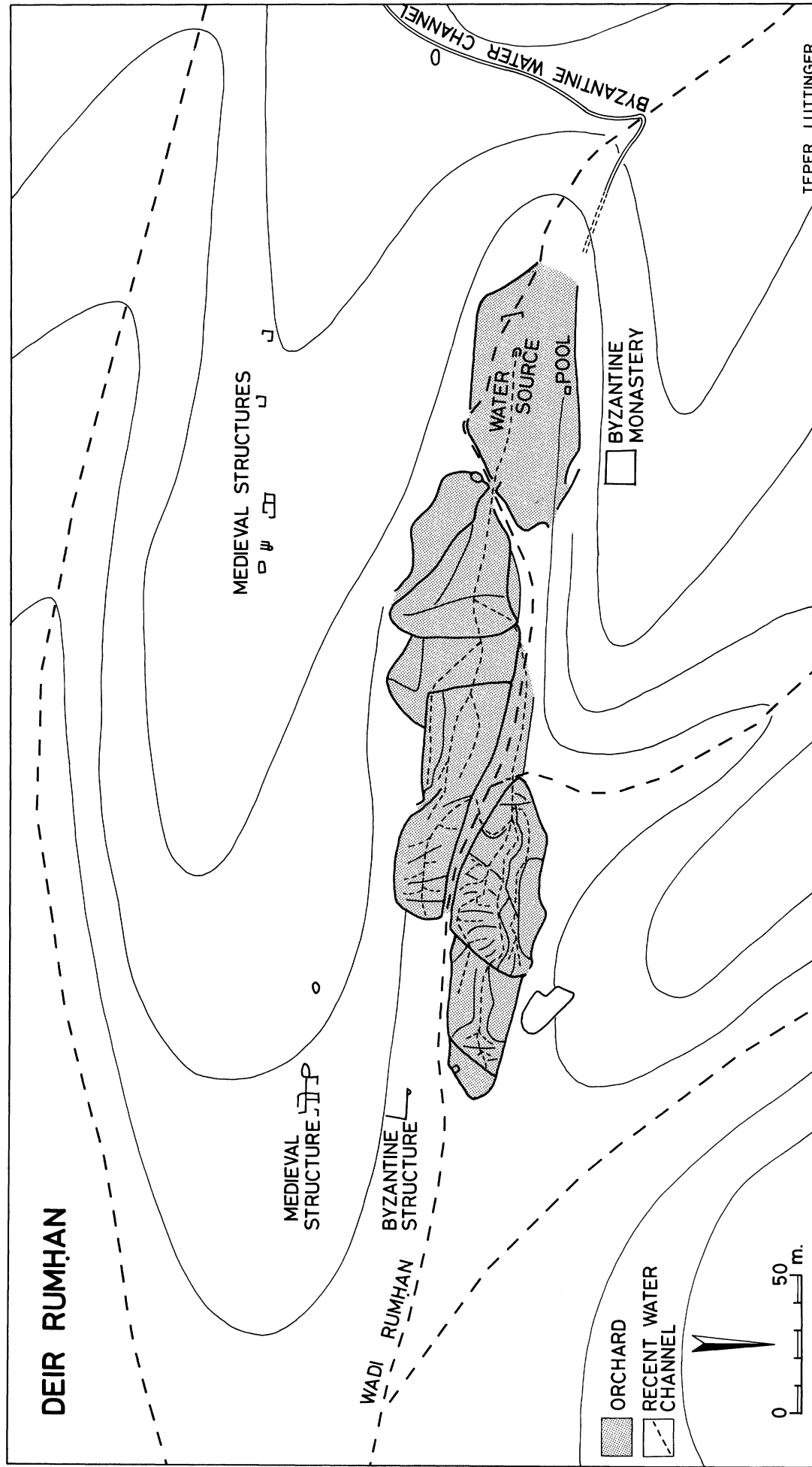
In Wadi Muwajed and its tributaries monastic activity was relatively intensive. Most of the building complexes surveyed along its length are described here, from north to south.

Farsh Habash—G.R. (central) 59171351, about 1,500 m. above sea level

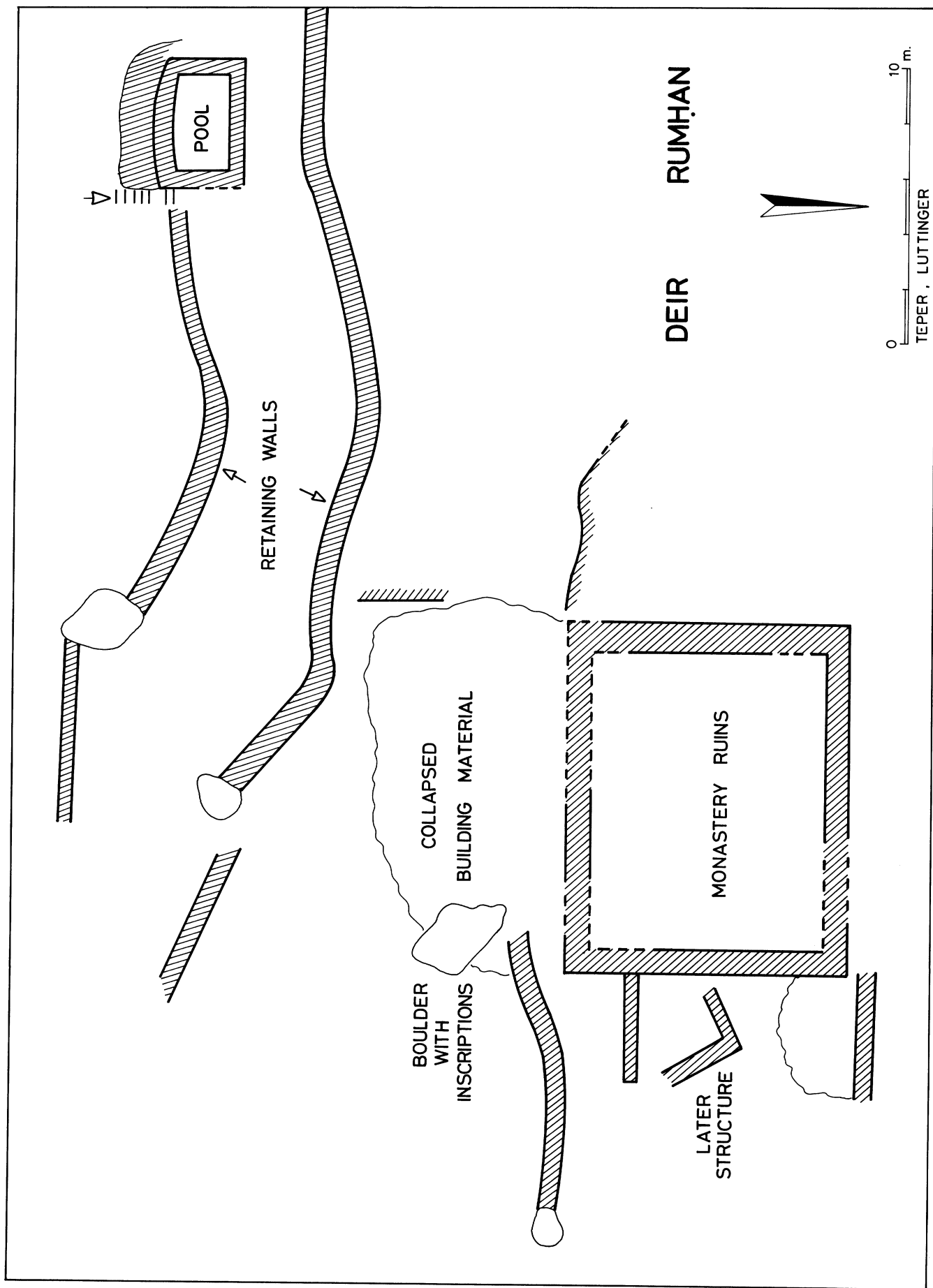
The site is located in a steep wadi which descends, east-west, into Wadi Muwajed from Jebel Rumhan. At the top of a path constructed to reach the site from the main wadi there is a rectangular structure, 4×4 m., which stands to its full original height—1.5 m. The structure faces southeast and its northwest side is open. It may possibly be a sort of prayer niche like those surveyed at Jebel Sufsafeh.²⁷

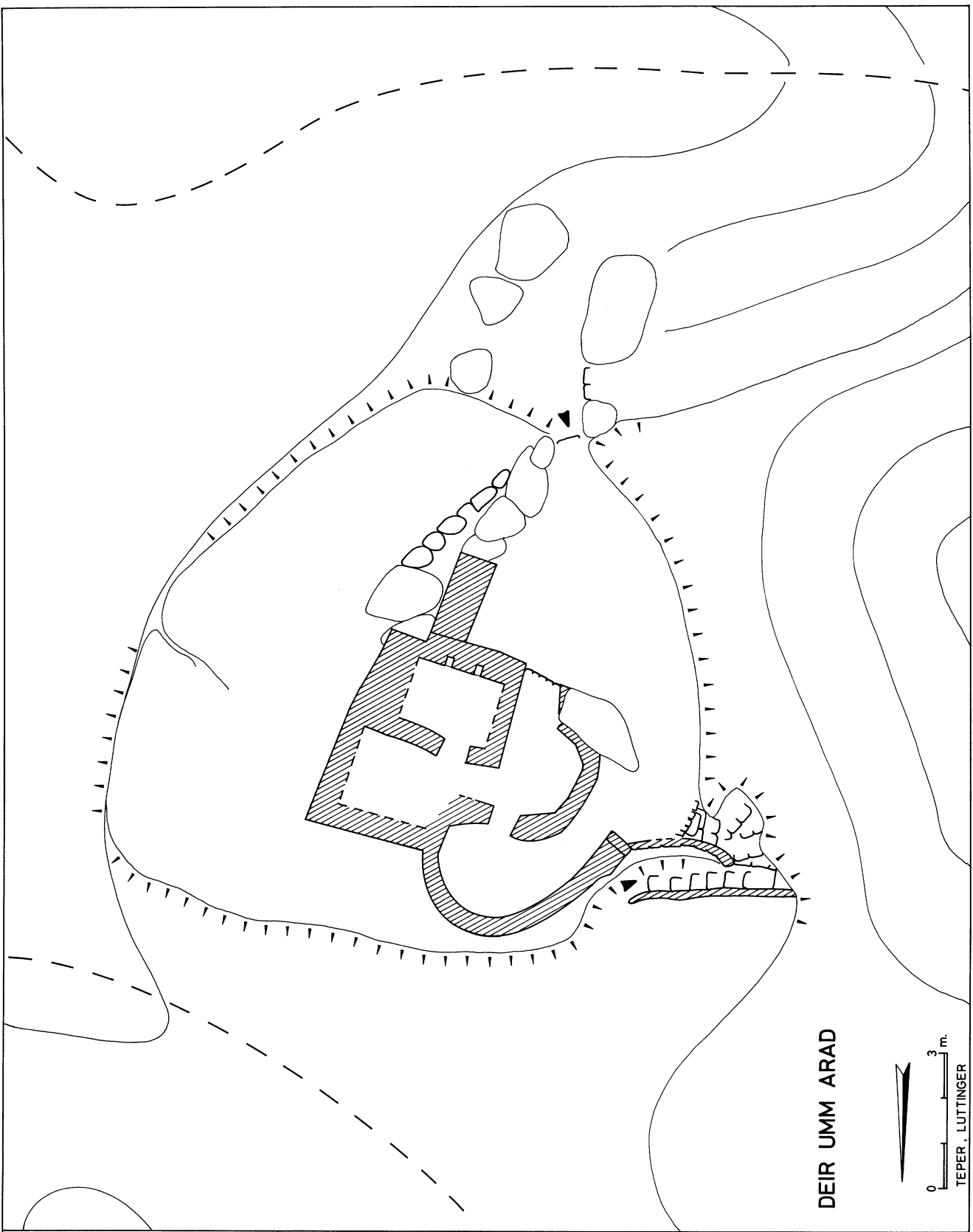
In the upper part of the site there is a high stone fence which surrounds a Bedouin desert orchard, about 45×25 m., where there is a perennial spring, and some date palms and almond trees. There are high terrace walls in the orchard, and to its west is a ruin of a rectangular building. The stone fences and terraces are apparently built along earlier lines. About twenty-five meters southwest of the orchard fence, on a slightly higher level, stands a huge overhanging boulder, beneath which is an early hermit cell enclosed by a wall with an opening. About fifty meters to the south, in a small secondary tributary, are two boulders, adjacent to which is a building consisting of two small rooms (3×2 m.; 2×1.5 m.). The entrance to the former is preserved to a height of 1.75 m., including its lintel on which a cross of medieval type is engraved (fig. 22). On the slope to the west of the large boulder is a series of six almost completely destroyed terraces, and in a narrow section down the wadi stands a Byzantine chapel with a well-preserved apse (figs. AA and 23). In the west of the building there is a sort of entrance chamber, with the major entrance cut into its south wall, whose outer face stands to a

²⁷Finkelstein, "Byzantine Prayer Niches" (*supra*, note 16). The prayer niches of the Umm Shomer region differ in a few details from those surveyed in the vicinity of St. Catherine's Monastery, being larger on the whole and more complex.



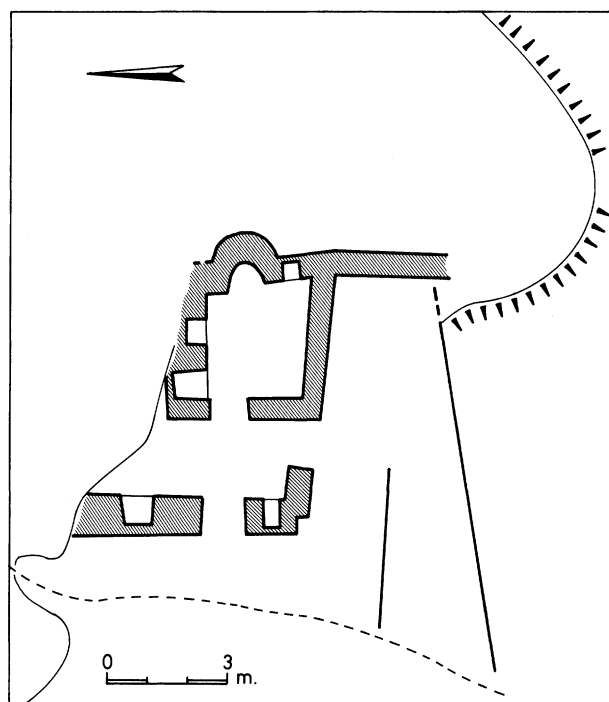
X. General Plan





Z. General Plan

height of 1.7 m. The entrance to the well-preserved chapel room is in its west wall; the monolithic lintel remains in situ. There is a small window in the wall next to the door. The apse in the east wall is constructed with great care of well-fitted stone slabs and is preserved to a height of 1.5 m. The narrow window visible in the apse is apparently one of a pair which faced east. Five "cupboards" were found in the chapel walls (fig. AA), which, on the inside are preserved to a height of 1.3–1.5 m. Outside the building, especially toward the south, are the remains of retaining walls which supported the building grounds and provided also a courtyard. Close to the building, in the wadi, there is a perennial water source.



AA. Farsh Habash, Chapel

El-Khirbe ("the ruin")—G.R. 59071334, 1,100 m. above sea level

This complex lies below the great meander in Wadi Muwajed, which forms here a fairly wide "valley," the two ends of which are narrow and canyon-like. There are a number of date palms here, and in the gorge section in the meander there is a spring. The site is located on the gradual western slope of the wadi, and the path, which runs along Wadi Muwajed, crosses it. In the complex there are remains of a large building in a very poor state of

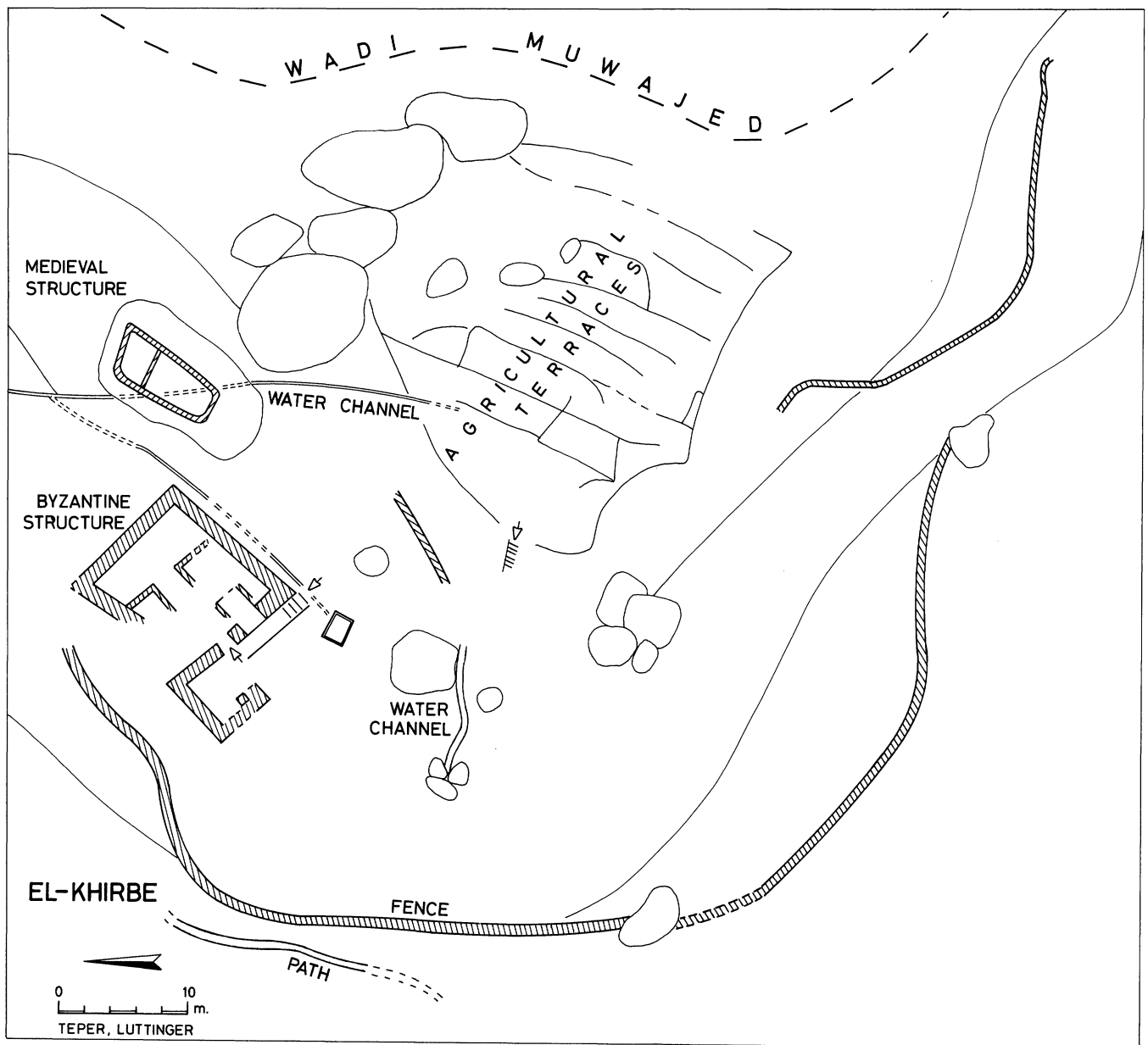
preservation, a medieval building erected on a large boulder, terraces on the slope, stone fences, and water channels (figs. BB and 24).

The Byzantine structure has collapsed and its walls remain only to a height of 0.5 m. On the slope, in a total area of about 250 sq. m., there are nine terrace levels of different dimensions; they have been repaired in recent generations by Bedouins. North of the complex and extending for about 300 m. is a plastered water channel. Visible in sections, the channel, built partially of upright stones and having segments with retaining walls, is similar to the water channels surveyed on Jebel Sufsafah. Its width and depth are about 0.3 m., and it carried water to a pool which was apparently to the south of the major building of the site. Next to the Byzantine structure, a section of a large-roofed channel about ten meters long can be seen protruding from the rock, but, since today there is no spring here, this channel's origin and function are not clear, though its size indicates that it carried a large quantity of water. The building complex is surrounded (especially in the south and west) by fences built of fieldstones which stand to a height of 1.5 m.

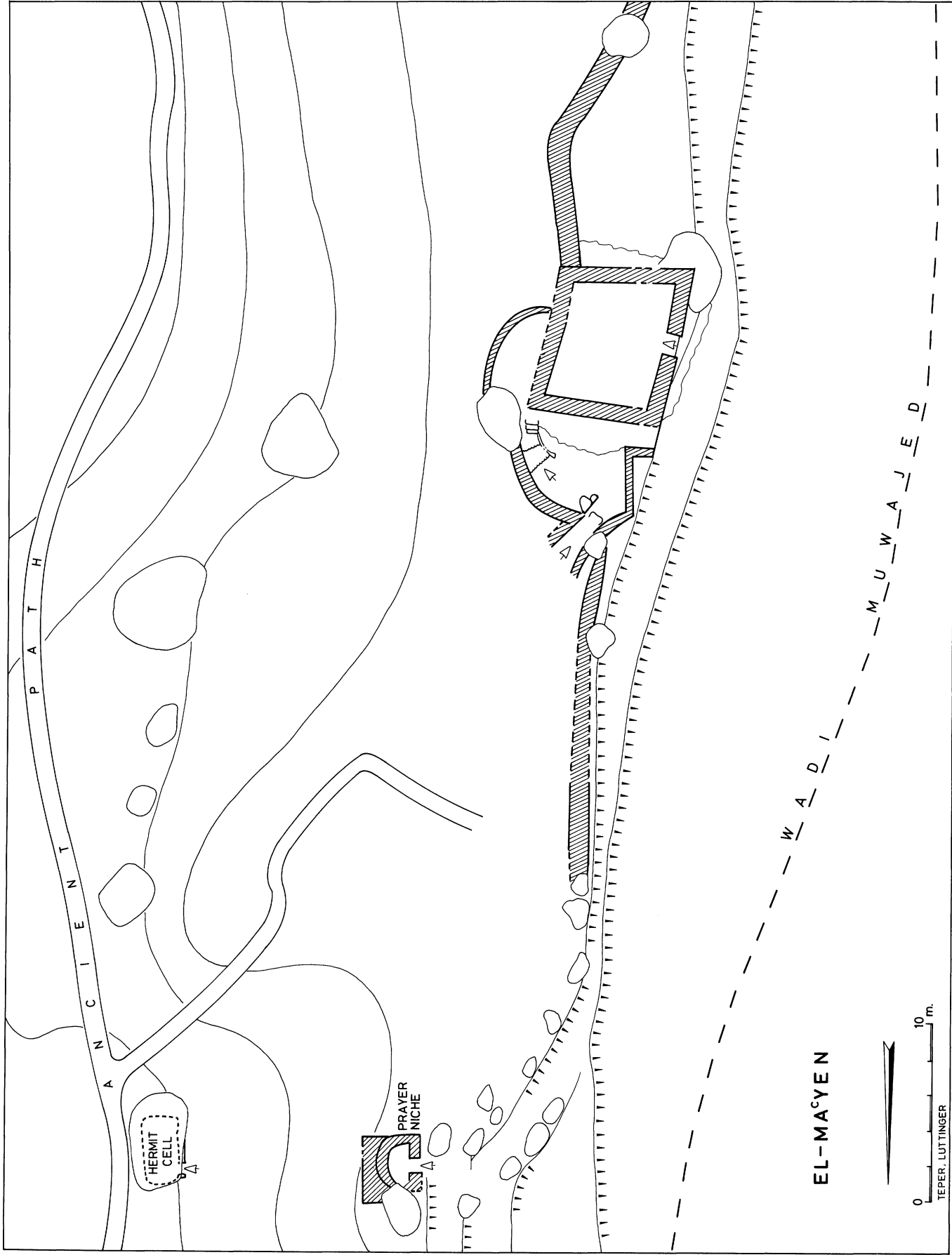
Ed-Deir ("the monastery")—G.R. 58971318, 1,050 m. above sea level

A narrow side ravine with wild cliffs, cut in the red granite rock, descends to Wadi Muwajed from the west. The building complex is located where the ravine widens and forms a kind of rocky basin about 40–50 m. wide and surrounded by cliffs 50–100 m. high. In the upper part of the site there are large boulders next to a small spring. The early path which leads to the complex rounded the canyon section of the ravine on the rocky slopes to its north. Close to the meeting point with Wadi Muwajed are sections of a path with paving stones and retaining walls.

The main building of the complex is next to the north cliff of the ravine. It has retaining walls on the south and east sides (figs. 25 and 26), where the outer walls stand to a height of 2 m. The interior of the building, built of small- and medium-sized stones, is filled with rubble. A staircase from outside apparently led to its upper storey. Characteristic windows, similar to those surveyed at other sites in the vicinity, are visible. A few steps above the spring, to the west of the main building, there is a small structure on an outcropping of rock, and about forty meters from the main building, next to the north side of the ravine, is a segment of plas-



BB. General Plan



CC. General Plan

tered channel, 0.2 m. in width and depth. This apparently carried water to a pool near the main building, though the pool could not be located. To the east of the building, next to the north cliff of the ravine, there is a fine section of a paved path.

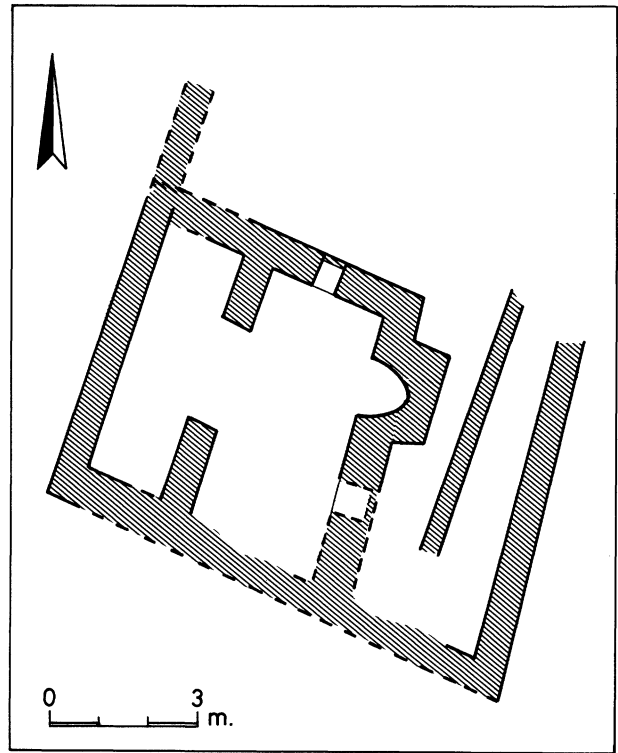
El-Maʿyen—G.R. 59021313, 875 m. above sea level

A building is located on a raised terrace about ten meters above Wadi Muwajed (fig. CC). The path, built along the length of the wadi, passes next to the site; paved sections and a retaining wall are visible. About sixty meters northwest of the building is a water source in the wadi between large boulders, but there is no evidence of cultivation at the site. The building is in a state of collapse. Its walls, constructed of medium-sized stones, are preserved on the inner face to a height of 0.5–1.5 m. Adjacent to the north side of the building there is a half-circular fence, and to the south and north a fence was constructed along the terrace. Facing east, about forty meters to the north of the main building, an apsidal structure measuring 3 × 3 m. and preserved to a height of 1.5 m. leans against a boulder. It was apparently a prayer niche for a hermit who lived in an alcove built nearby, beneath another boulder (fig. 29).

El-Fraʿiyeh—G.R. 58921305, 950 m. above sea level

Wadi Fraʿiyeh, descending into Wadi Muwajed from the west, forms a fairly wide valley in the middle of its course, with steep slopes to its west and north. In the center of the valley there is a group of date palms next to a building with a chapel (fig. 27). The vegetation at the site indicates that the water table here is high. A fence, about one meter high, encloses an agricultural plot in the heart of the valley. Leading up to the site from Wadi Muwajed is a well-built path with paved sections, retaining walls, and steps (fig. 28), and at the top of the ascent, where there is a good view, an apsidal prayer niche faces east.

The ruined main building, with a chapel (fig. DD), is built on a rock hillock in the heart of the complex. Walls erected in the south and east lend support to the structure which rises several meters above the valley. The apse of the chapel, with a window in its center, is sunk into the eastern wall, and there is another window, now destroyed, in the northern wall of the chapel. The inside of the building is preserved to a maximum height of 1.5 m.; outside, the southeast corner of the building stands 1.7 m. high. On a hillock south of the fence there is an additional small structure with two rooms, now in ruins, and under two boulders, near



DD. El-Fraʿiyeh, Chapel

the place where the ravine and the path emerge from the valley, an alcove was built.

Conclusions

The survey in the area of Jebel Umm Shomer throws light on an unknown yet important region for the study of Sinaitic monasticism. Following our work here and in the Sinai heights in the vicinity of St. Catherine's Monastery, it is possible to point out the similarities and differences between these two centers. They have in common their geographical background; the high red granite mountains of southern Sinai form a special ecological zone.²⁸ They receive more precipitation than the other areas in the peninsula, and because the rain water flows readily over the impermeable rock surfaces of the mountain slopes, a large quantity of water reaches the wadis. Runoff water can be collected in pools; the level of the water table is easily reached by digging shallow wells; and in some places water forms small springs. Relatively plentiful water and mild climate permitted the development of agricultural activity in monastic communities, and monastic activity concentrated, therefore, in the

²⁸ Perevolotsky, "Orchard Agriculture" (*supra*, note 9).

three high, red granite massifs of southern Sinai: St. Catherine's Monastery, Jebel Umm Shomer, and Jebel Serbal (in the west of southern Sinai). Of particular interest is the choice of the locations of Deir Antush and Deir Rumhan, which shows a thorough knowledge of environmental factors on the part of the monks: both sites are situated at the point of contact between the red and gray granite; red granite provides the sites with water either from springs or from surface runoff, and gray granite, which tends to crumble, contributes agricultural soil. Thus, at some of the sites, excepting those monasteries in rocky canyons, agricultural activity is reflected in the remains of cultivation plots, terraces, and stone fences. Of special interest is the winepress at Deir Antush, which is evidence of intensive viticulture for the manufacture of wine.²⁹ Additional winepresses have been surveyed recently in other monastic sites in southern Sinai.³⁰

The difference between the monastic settlement in the region of Mt. Sinai and the Umm Shomer massif lies in the intensity of activity and the location of sites. In the first place, in the Sinai heights many, perhaps hundreds, of sites are known, whereas in our region settlement was sparse—over a rather large area only eleven sites were found in the survey.³¹ The reasons for this are the difficult topography and apparently also the distance of the sites from the center—the Monastery of the Burning Bush (St. Catherine's). In any case, despite their paucity, one should consider the sites in the region of Umm Shomer as an independent monastic group, not as a secondary group of Raithou on the Suez Gulf. A second difference is that in the Sinai heights many sites are located in small mountain valleys in the red granite blocks, such as at Jebel Sufsafah, Jebel ed-Deir, and Jebel Bab (also at Jebel Serbal, next to the Feiran oasis); other sites lie in wadis of similar rock formation. Here, on the other hand, because jagged ridges form harsh topography, there are no high mountain valleys, and all the sites are, therefore, concentrated in the wadis. This leads to a further difference—the proximity of water sources. A considerable number of sites on the ridges in the vicinity of St. Catherine's mon-

astery subsisted on reservoirs. In contrast, all the sites in our region were located next to permanent water sources in the ravines of the wadis. Finally, the mountain valleys and the wide wadis of the Sinai heights are relatively convenient for agriculture, and at almost every site there is evidence of intensive cultivation. On the other hand, here, in the wild and cliffy ravines, there were sites which did not include cultivation of the land.

Of particular interest is the question of the ancient paths which crossed the region. Along the entire length of Wadi Muwajed sections of early paths were surveyed. Fine paved sections and retaining walls are discernible. Wadi Muwajed is suitable for walking; it has plentiful water, and along most of its course, apart from the section before the saddle between Jebel Rumhan and Jebel Umm Shomer, its gradient is gradual. Furthermore, in the rugged sections, if the path was reinforced, it was possible to use beasts of burden. It seems, therefore, that Wadi Muwajed was an important element in the system of paths that connected the coast of the Suez Gulf in the vicinity of Raithou (et-Tur) to the region of St. Catherine's Monastery, that it was, in fact, a major route. If this is the case, then the path crossed the canyon of Wadi Isla, where a well-paved section of an early path can be seen, ascended in Wadi Muwajed along its full length, and descended to Deir Rumhan, whence it continued in Wadi Rahabah to St. Catherine's Monastery (see fig. U). Despite the need to climb to the watershed between Wadi Muwajed and Wadi Rumhan, this route is apparently preferable to the one via Wadi Isla, where the amount of alluvial material makes walking difficult. In any case, throughout the length of Wadi Isla, above its meeting point with Wadi Muwajed, no Byzantine structure or remains of an early path are known. Some of the sites surveyed, such as el-Ma'yen, el-Khirbe, and Deir Rumhan, are scattered along the main route, others are located at remote corners (Deir Antush) or in secondary cliffy ravines which are steep and wild—Deir Umm Arad, el-Fra'iyeh, ed-Deir, and Farsh Habash. Apparently, in this last group there were monks who sought a life of complete seclusion, preferring to settle at some distance from the main route, though taking care to remain at least within its vicinity for security and economic reasons.

Finally, we come to one of the major questions connected with the survey—what were the factors that led to the development of monastic settlement in this region? Even though the answer is complex and not unequivocal, it is possible to touch on some

²⁹ See I. Finkelstein and Y. Teper, "Deir Antush in Southern Sinai and Wine Production in the Desert," *Teva va-Aretz*, 24 (1981), 28–31 (Hebrew).

³⁰ Dahari and Goren, *op. cit.*, 38, 45.

³¹ As we worked with Bedouins who know the area well, it seems likely that most of the sites in the region were visited. An additional remote site, Deir Umm Butme, in the upper part of Wadi Imleha on the southwest slopes of Jebel Umm Shomer, was discovered by the Tsukei David Field School staff.

points which have a bearing on the solution: 1. In the first place, here, as in some other parts of southern Sinai, the physical setting, which facilitated the establishment of monastic communities, played an important role in the pattern of settlement. The primeval splendor of the area certainly contributed toward attracting monks bent on finding seclusion. 2. The complex of paths which led from Raithou to the Monastery of the Burning Bush and Mt. Sinai made the massif of Umm Shomer less remote than it is today. The main route attracted the monks to the vicinity of Wadi Muwajed and Deir Rumhan. 3. The ceramic finds from the sites raise an interesting point. There is a complete lack of imported pottery of the African red slip type, in contrast to its presence in considerable quantities in the sites around Mt. Sinai. One cannot exclude the possibility that this shows that the activity in the region of Jebel Umm Shomer developed at a later stage of the early Byzantine period. It is thus possible that the density of population in

the vicinity of the Monastery of the Burning Bush and Mount Sinai, which increased over time, led some monks to leave the center due to lack of space or to the desire to live in complete seclusion.³² 4. The possibility of the existence in the Byzantine period of sacred traditions connected with mountains and places in the Sinai, apart from the region of St. Catherine's monastery, has been discussed heretofore.³³ Although this assumption has no clear supporting evidence in the sources, one cannot completely dismiss the possibility that the concentration on sites around Jebel Umm Shomer is connected with such a tradition.

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³² Perevolotsky (*op. cit.*) calculated that the number of Byzantine orchards in the vicinity of St. Catherine's Monastery was even greater than the number of Bedouin orchards today.

³³ Cf. Tsafir, *op. cit.*, 12–13.

GREEK INSCRIPTIONS IN DEIR RUMḤAN, SINAI

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The archeological survey that took place in February and May 1978 in the region of Jebel Umm Shomer in the southwestern area of the Sinai Peninsula also includes the site of Deir Rumḥan.¹ In the course of the survey, seven Greek inscriptions were discovered on the surface of a large fragment of rock, adjacent to the monastery complex.² The monastic site is on the main road which led from the Monastery of the Burning Bush to Raithou, known today as A-Tur, one of the principal stations for pilgrims on their way to the Monastery of St. Catherine and environs in the Early Byzantine period.

The inscriptions were incised, although not deeply and in no specific sequence, on the relatively soft rock surface. The surface is weathered, and it is possible that time and atmospheric conditions have combined to erode additional inscriptions.

All seven inscriptions were appropriately incised in a monumental or quasimonumental script. The shape of the letters tends to be rounded or oval, and above three of the inscriptions (Nos. 5, 6, and 7) there is a Greek or simple cross (*Crux Immissa*).³

Inscription No. 1

- a. [...] ΔΔΟΥΛΟC b. [Θεό]δδουλος
 [...] P(or B)AN[.] [...] Ϟ (or β) αν[.]
 [...] ω [..] [...] ω [..]
- c. [Theo] doulous

¹This survey was carried out by Dr. Israel Finkelstein of Bar-Ilan University, Ramat-Gan, Israel; see *Hadashot Archaeologiot*, 65–66 (April 1978), 66; 67–68 (October 1978), 72. My thanks are due to Dr. Finkelstein who has kindly drawn my attention to these inscriptions which are published herein with his permission.

²See Finkelstein's article *supra*, p. 64.

³See E. L. Butcher and W. M. Flinders Petrie, "Early Forms of the Cross from Egyptian Tombs," *Ancient Egypt*, III (1916), 97–109 (esp. Nos. 9, 21, 34, 35, 61, 74, 76, 89, 105–7, 116).

Height of letters: 3.5–9.4 cm

The first line appears to be a theophoric name meaning slave of God. It is frequently found in Greek Christian epigraphy.⁴ The letters were carefully incised, but the inscription was not preserved in its entirety; so it is difficult to complete the second and third lines. The entire left-hand part of the second line, about five letters, was completely destroyed, and from the third line only the ω was preserved. If, in fact, in the first line two Δ's were engraved, it would appear that one of them is superfluous, and it may be supposed that the use of two is either in acquiescence to phonetic demands or simply an error in spelling.

Inscription No. 2

- a. [·] b. [·]βωσ[·]βη
 [·] B H
 ω
 Ϟ

Height of letters: 5.9–15.3 cm

The letters form a Latin cross⁵ with the B forming the central point of the intersection between the two bars of the cross. It is difficult to complete the inscription or to understand its meaning. Possibly, it, too, refers to a proper name. The C (= σ) at the base of the perpendicular bar of the cross has for some reason been incised with the opening facing down.

⁴See A. Negev, *The Inscriptions of Wadi Haggag, Sinai (Qedem, 6)* (Jerusalem, 1977), No. 103; R. Canova, *Iscrizioni e Monumenti Protocristiani del Paese di Moab* (Vatican City–Rome, 1954), LXXXIII, 244; F. Preisigke, *Namenbuch* (Heidelberg, 1922), col. 134, s.v.; W. Pape and G. E. Benseler, *Wörterbuch der Griechischen Eigenamen*, I (Braunschweig, 1911), 490, s.v.

⁵See Butcher and Petrie, *op. cit.*, 97–109 (esp. Nos. 12, 20, 22–24, 29, 62–69, 71–73, 75, 77–82, 84, 85, 87, 88, 90, 92–94, 100, 102, 104, 108–13, 125, 132).

Inscription No. 3

- a. Λ
 ΓΗOC
 N
- b. Λονγῆος
- c. Λο(γ)γ(εῖ)ος
 or
 Λο(γ)γ(αῖ)ος

d. Longeios or Longaios

Height of letters: 4.7–8.2 cm

This frequently used name forms, as do its predecessors, a Latin cross turned 90° to the right, with the O providing the point of intersection of the arms of the cross. There are some spelling errors, due to phonetics; thus the consonant N is used instead of the first Γ and the letter H, which is a long vowel, was used instead of the diphthong EI or AI. The correct spelling of the name should therefore be Λογγεῖος⁶ or Λογγαῖος.⁷

Inscription No. 4

- a. [.]
 ΩΦ
 C
- b. [Φ]
 ζ ωφ
 ς
- c. [Φ]ως
 Φως

d. Light (and) Light

Height of letters: 5.9–7 cm

In this inscription the word Φως appears twice, once vertically and once horizontally from right to left, with the C (= ς) appearing in mirror position. The combination is interesting and unusual for two reasons: a) the horizontal word appears in the form of a mirror image; b) while in this case the horizontal word is Φως, in most cases it is Ζωή — Ζωή.⁸

The ω is the center letter of a Greek cross (*Crux Immissa*).

⁶Cf. Preisigke, *op. cit.*, col. 197, s.v.

⁷Cf. *ibid.*

⁸See, for example, W. K. Prentice, *Syria (Publications of the Princeton University Archaeological Expeditions to Syria in 1904–5 and 1909): Greek and Latin Inscriptions*, III/B (Leyden, 1922), Nos. 893, 912; A. Ovadia, "Greek Inscriptions from the Northern Bashan," *Liber Annuus*, XXVI (1976), 201 f.

Inscription No. 5

- a. +
 Θ
 E
 PΩC
 Δ
 O
- b. + Θεώδορος
- c. + Θε(ό)δ(ω)ρ(ο)ς

d. + Theodōros

Height of letters: 5.6–8.2 cm

A very common name during the Early Byzantine period as well as afterward.⁹ Care and meticulousness in the engraving of the letters can be discerned. The Ω is wider in relation to the rest of the letters and forms the point of intersection between the vertical and horizontal bars. The incising of the name is symmetrical, forming a cross in which the vertical bars are longer than the horizontal arms. Some spelling mistakes occur when the Ω and the O are interchanged.

Inscription No. 6

- a. +
 P
 N Ω C
 M
 A
- b. + Ρωμανός
- c. + Ρωμαν(ό)ς

d. + Rōmanos

Height of letters: 4.8–10.6 cm

A common name, also found in Egypt.¹⁰ There is a similarity in the incision to that of inscription No.

⁹See C. B. Welles, "The Inscriptions," *apud* C. H. Kraeling, ed., *Gerasa—City of the Decapolis* (New Haven, 1938), Nos. 300, 306, 315–17, 336 (pp. 477–80, 482–83, 487); Canova, *op. cit.* (*supra*, note 4), LXXXIII, 57, 59, 86, 103, 104, 107, 136, 236, 239, 246, 278, 338, 360, 374, 384; G. Lefebvre, *Recueil des inscriptions grecques-chrétiennes d'Égypte* (Cairo, 1907), Nos. 7, 12, 43, 56, 69, 72, 227, 351, 513, 584, 586, 587, 589, 591; A. Negev, *The Greek Inscriptions from the Negev* (Jerusalem, 1981), Nos. 17, 26, 31a, 44d; *idem*, *op. cit.* (*supra*, note 4), Nos. 45, 101, 104; see also Preisigke, *op. cit.* (*supra*, note 4), col. 134, s.v.

¹⁰See W. K. Prentice, *Greek and Latin Inscriptions* (New York, 1908), Nos. 244, 394; *idem*, *op. cit.* (*supra*, note 8), Nos. 1037, 1049, 1177; Negev, *op. cit.* (*supra*, note 9), No. 47; Preisigke, *op. cit.* (*supra*, note 4), col. 355, s.v.; Pape and Benseler, *op. cit.*, II (*supra*, note 4), 1319, s.v.; C. M. Kaufmann, *Handbuch der altchristlichen Epigraphik* (Freiburg im Breisgau, 1917), 217, 221, 265.

5: meticulousness and care in the engraving of the letters; the Ω is wider in relation to the other letters and forms the point of intersection between the vertical and horizontal arms of the Latin cross. In this case, too, there is an error in spelling as a result of the substitution of Ω for O in the last syllable of the name. This probably stems from the impossibility of inserting an O together with the Ω which forms the point of intersection between the two arms of the cross.

Inscription No. 7

a.



b. Γρατιανός

c. Gratianos

Height of letters: 8.2–10.6 cm

This inscription is made up of a monogram consisting of a proper name which is found in the Greek onomasticon.¹¹ The name is in nominative form, as are the proper names in the previous inscriptions. Monograms of this type are very common in the Byzantine period.¹²

To sum up: the interesting phenomenon is that five of the seven inscriptions are incised in the form of a cross: the Greek cross (*Crux Immissa*) or the Latin cross (the two exceptions being Nos. 1 and 7). The engravers intended this, and it is particularly apparent in the proper names. Both the sym-

bolism and importance of the cross to these engravers and their religious affiliation are thereby emphasized.

The inscriptions were probably engraved with deep religious feeling, as substitutes for prayer to or invocation of Divine Providence. This is evident not only in the cross shape of most of the inscriptions (Nos. 2, 3, 4, 5, and 6), but also in the formula Light (and) Light (No. 4). They were no doubt a source of support, strength, expectation, and hope of assistance making possible continued existence in the difficult, arid Sinai where the resident monks and travelers experienced great hardship and danger.

Proper names in these inscriptions are common, but it is uncertain whether they are the names of Christian pilgrims on their way to holy places in Sinai, including the monastic complex at Deir Rumhan, or the names of monks who lived in solitude in the region or in Deir Rumhan itself. On the one hand, the practice of incision and "perpetuation" is more typical of pilgrims; on the other hand, the fact that the rock containing these inscriptions was adjacent to the monastic complex suggests that the inscriptions were incised by the resident monks themselves.

In the inscriptions there are spelling mistakes made for phonetic or other reasons (Nos. 1[?], 3, 5, and 6).

It is difficult to determine the exact date of the inscriptions because of lack of sufficient data. However, the style of script,¹³ the monogram (No. 7), the words $\Phi\omega\varsigma$ engraved in the form of a cross (No. 4), and the general character of the inscriptions all indicate the Early Byzantine period. Pottery finds discovered in the site support this chronological determination.¹⁴

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¹¹ Cf. Pape and Benseler, *op. cit.* (*supra*, note 4), 260, s.v.; Preisigke, *op. cit.* (*supra*, note 4), col. 82, s.v.

¹² Cf. G. Zacos and A. Vegliery, *Byzantine Lead Seals*, I (Pts. I–III and Plates) (Basel, 1972), *passim* (esp. pls. 49–64); F. Manns, "Les sceaux byzantins du Musée de la Flagellation," *Liber Annuus*, XXVI (1976), 213–71, pls. 25–44; cf. also monograms on the capitals in the Churches of St. Sophia and SS. Sergius and Bacchus in Constantinople: W. R. Lethaby and H. Swainson, *The Church of Sancta Sophia, Constantinople—A Study of Byzantine Building* (London–New York, 1894), 249–51, 292–97; E. H. Swift, *Hagia Sophia* (New York, 1940), 52, 65, 67, pls. xxiv, xxv, xxvii, xxviii, xlv, xlv(D); H. Swainson, "Monograms on the Capitals of S. Sergius at Constantinople," *BZ*, 4 (1895), 106–8.

¹³ Cf. Welles, *apud* Kraeling, ed., *op. cit.* (*supra*, note 9), figs. 14–16 (366–67).

¹⁴ This information was conveyed to me orally by Dr. Finkelstein; see also his article published above.